TEST REPORT

Report Number. : 13571601-E10V3

Applicant	:	APPLE INC. 1 APPLE PARK WAY CUPERTINO, CA 95104, U.S.A.
Model	:	A2483
FCC ID	:	BCG-E4000A
EUT Description	:	SMARTPHONE
Test Standard(s)	:	FCC CFR 47 Part 2, Part 22, Part 27 and Part 96

Date Of Issue:
August 04, 2021

Prepared by:
UL Verification Services Inc.
47173 Benicia Street
Fremont, CA 94538 U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888

Cert. #0751.05

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	7/19/2021	Initial Review	Dan Coronia
V2	7/21/2021	Addressed TCB Questions	Mengistu Mekuria
V3	8/04/2021	Addressed TCB feedback for section 7. Updated 6.5 to clarify that conducted tests were selected based on worst case conducted power.	John Thompson

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE INC. 1 APPLE PARK WAY CUPERTINO, CA 95104, U.S.A.
Model	A2483
Brand	APPLE
FCC ID	BCG-E4000A
EUT Description	SMARTPHONE
Serial Number	C070514009F0G492 (Conducted), HXKPFXHXK2 (Radiated)
Sample Receipt Date	MARCH 05, 2021
Date Tested	MARCH 09, 2021 to JUNE 28, 2021
Applicable Standards	FCC CFR 47 Part 2, Part 22, Part 27 and Part 96
Test Results	COMPLIES

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released By:	Prepared By:
	
Dan Coronia Operations Leader UL Verification Services Inc.	Tony Li Test Engineer UL Verification Services Inc.

2. SUMMARY OF TEST RESULTS

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

Requirement Description	Requirement Clause Number (FCC)	Result*	Remarks
RF Conducted Output Power	2.1046	Complies	
Effective Radiated Power	22.913 (a)(5)	Complies	
Equivalent Isotropic Radiated power	27.50 (h) (2) 27.50 (d) (4) 96.41 (b)	Complies	
Occupied Bandwidth	2.1049	Complies	
Band Edge and Emission Mask	2.1051, 22.917 (a), 27.53(h) 27.53 (m)(4) &(m)(6), 96.41(e)	Complies	
Out of Band Emissions	2.1051, 22.917 (a), 27.53(h) 27.53 (m)(4) &(m)(6), 96.41(e)	Complies	
Frequency Stability	2.1055, 22.355, 27.54	Complies	
Peak-to-Average Ratio	27.50 (d) (5), 96.41 (g)	Complies	
Field Strength of Spurious Radiation	2.1053, 22.917 (a), 27.53(h) 27.53 (m)(4) &(m)(6), 96.41(e)	Complies	

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the following:

- ANSI C63.26:2015
- FCC CFR 47 Part 2, Part 22, Part 27 and Part 96
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems
- FCC KDB 971168 D02 v02r01: Misc Rev Approv License Devices
- FCC KDB 412172 D01 v01r01. Determining ERP and EIRP

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	208313
☒	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA	US0104	22541	208313
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA	US0104	2324B	208313

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U_{Lab}
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB
Occupied Channel Bandwidth	±1.22 %
Temperature	±2.26%
Supply voltages	±0.57 %
Time	±3.39 %

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:
Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G, CDMA, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wideband, GPS, and NFC. All models support at least one UICC based SIM. The second SIM is either an UICC based p-SIM (physical SIM) or e-SIM (electronic SIM). The device supports a built-in inductive charging transmitter and receiver. The rechargeable battery is not user accessible.

Test was performed on the parent model and is used to support the application for the parent and variant identified in this report based on the test plan submitted and approved via KDB inquiry by the FCC.

6.2. MAXIMUM OUTPUT POWER

ERP/EIRP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

ERP/EIRP = PMeas + GT − LC
where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);
PMeas = measured transmitter output power or PSD, in dBm or dBW;
GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted and ERP/EIRP output powers as follows:

OUTPUT POWER FOR LTE BAND 5(Ant 1)

Part 22H	
ERP Limit (W)	7.00
Antenna Gain (dBi)	-4.80

Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
3+5	QPSK	825.5	846.5	25.70	18.75	0.075	7456	7M46G7W
	16QAM			25.68	18.73	0.075	7471	7M47D7W
5+3	QPSK	826.5	847.5	25.32	18.37	0.069	7506	7M51G7W
	16QAM			25.70	18.75	0.075	7472	7M47D7W
5+10	QPSK	826.5	844.0	25.70	18.75	0.075	13851	13M9G7W
	16QAM			25.25	18.30	0.068	13827	13M8D7W
10+5	QPSK	829.0	846.5	25.70	18.75	0.075	13858	13M9G7W
	16QAM			24.88	17.93	0.062	13867	13M9D7W
10+10	QPSK	829.0	844.0	25.70	18.75	0.075	18829	18M8G7W
	16QAM			25.22	18.27	0.067	18779	18M8D7W

OUTPUT POWER FOR LTE BAND 7 (Ant 3)

Part 27	
EIRP Limit (W)	2.00
Antenna Gain (dBi)	0.20

Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
10+20	QPSK	2505.5	2560.0	25.20	25.40	0.347	28092	28M1G7W
	16QAM			24.14	24.34	0.272	27887	27M9D7W
20+10	QPSK	2510.0	2564.5	25.20	25.40	0.347	28004	28M0G7W
	16QAM			24.68	24.88	0.308	27993	28M0D7W
15+15	QPSK	2507.5	2562.5	25.20	25.40	0.347	28565	28M6G7W
	16QAM			24.31	24.51	0.282	28512	28M5D7W
15+20	QPSK	2507.8	2560.0	25.20	25.40	0.347	32775	32M8G7W
	16QAM			24.42	24.62	0.290	32784	32M8D7W
20+15	QPSK	2510.0	2562.2	25.20	25.40	0.347	32796	32M8G7W
	16QAM			24.39	24.59	0.288	32765	32M8D7W
20+20	QPSK	2510.0	2560.0	25.20	25.40	0.347	37643	37M6G7W
	16QAM			24.32	24.52	0.283	37594	37M6D7W

OUTPUT POWER FOR LTE BAND 41(Ant 3)

Part 27	
EIRP Limit (W)	2.00
Antenna Gain (dBi)	0.20

Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5+20	QPSK	2499.3	2680.0	26.50	26.70	0.468	22797	22M8G7W
	16QAM			25.39	25.59	0.362	22760	22M8D7W
20+5	QPSK	2506.0	2686.7	26.50	26.70	0.468	22787	22M8G7W
	16QAM			25.90	26.10	0.407	22834	22M8D7W
10+20	QPSK	2501.5	2680.0	26.50	26.70	0.468	27625	27M6G7W
	16QAM			25.49	25.69	0.371	27625	27M6D7W
20+10	QPSK	2506.0	2684.5	26.50	26.70	0.468	27689	27M7G7W
	16QAM			25.68	25.88	0.387	27676	27M7D7W
15+15	QPSK	2503.5	2682.5	26.50	26.70	0.468	28360	28M4G7W
	16QAM			25.93	26.13	0.410	28263	28M3D7W
15+20	QPSK	2503.8	2680.0	26.50	26.70	0.468	32514	32M5G7W
	16QAM			26.01	26.21	0.418	32578	32M6D7W
20+15	QPSK	2506.0	2682.2	26.50	26.70	0.468	32520	32M5G7W
	16QAM			25.68	25.88	0.387	32494	32M5D7W
20+20	QPSK	2506.0	2680.0	26.50	26.70	0.468	37474	37M5G7W
	16QAM			25.81	26.01	0.399	37437	37M4D7W

OUTPUT POWER FOR LTE BAND 48(Ant 7)

Part 96	
EIRP Limit (W)/ 10MHz	0.20
Antenna Gain (dBi)	-3.10

Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5+20	QPSK	3553.3	3690.0	23.45	20.35	0.108	23286	23M3G7W
	16QAM			23.62	20.52	0.113	23205	23M2D7W
20+5	QPSK	3560.0	3696.7	23.58	20.48	0.112	23225	23M2G7W
	16QAM			23.68	20.58	0.114	23268	23M3D7W
10+20	QPSK	3555.5	3690.0	24.20	21.10	0.129	28024	28M0G7W
	16QAM			24.18	21.08	0.128	28058	28M1D7W
20+10	QPSK	3560.0	3694.5	24.16	21.06	0.128	28015	28M0G7W
	16QAM			24.20	21.10	0.129	27963	28M0D7W
15+20	QPSK	3557.8	3690.0	24.25	21.15	0.130	32857	32M9G7W
	16QAM			24.70	21.60	0.145	32849	32M8D7W
20+15	QPSK	3560.0	3692.2	24.70	21.60	0.145	32871	32M9G7W
	16QAM			24.70	21.60	0.145	32833	32M8D7W
20+20	QPSK	3560.0	3690.0	24.66	21.56	0.143	37589	37M6G7W
	16QAM			24.70	21.60	0.145	37716	37M7D7W

OUTPUT POWER FOR LTE BAND 66B(Ant 3)

Part 27	
EIRP Limit (W)	1.00
Antenna Gain (dBi)	-1.70

Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5+5	QPSK	1712.5	1777.5	25.20	23.50	0.224	9196	9M20G7W
	16QAM			24.38	22.68	0.185	9150	9M15D7W
5+10	QPSK	1712.8	1775.0	25.20	23.50	0.224	13757	13M8G7W
	16QAM			24.35	22.65	0.184	13707	13M7D7W
10+5	QPSK	1715.0	1777.2	25.20	23.50	0.224	13792	13M8G7W
	16QAM			24.29	22.59	0.182	13764	13M8D7W
5+15	QPSK	1713.0	1772.5	25.20	23.50	0.224	17870	17M9G7W
	16QAM			24.53	22.83	0.192	17875	17M9D7W
15+5	QPSK	1717.5	1777.0	25.20	23.50	0.224	18121	18M1G7W
	16QAM			24.38	22.68	0.185	18086	18M1D7W
10+10	QPSK	1715.0	1775.0	25.20	23.50	0.224	18653	18M7G7W
	16QAM			24.38	22.68	0.185	18649	18M6D7W

OUTPUT POWER FOR LTE BAND 66C(Ant 3)

Part 27 / RSS 139	
EIRP Limit (W)	1.00
Antenna Gain (dBi)	-1.70

Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
10+15	QPSK	1715.3	1772.5	25.20	23.50	0.224	22840	22M8G7W
	16QAM			24.82	23.12	0.205	22855	22M9D7W
15+10	QPSK	1717.5	1774.7	25.20	23.50	0.224	22946	22M9G7W
	16QAM			24.64	22.94	0.197	22900	22M9D7W
10+20	QPSK	1715.5	1770.0	25.20	23.50	0.224	27336	27M3G7W
	16QAM			24.35	22.65	0.184	27344	27M3D7W
20+10	QPSK	1720.0	1774.5	25.20	23.50	0.224	27587	27M6G7W
	16QAM			24.79	23.09	0.204	27676	27M7D7W
15+15	QPSK	1717.5	1772.5	25.20	23.50	0.224	28078	28M1G7W
	16QAM			24.69	22.99	0.199	28103	28M1D7W
15+20	QPSK	1717.8	1770.0	25.20	23.50	0.224	32332	32M3G7W
	16QAM			24.54	22.84	0.192	32252	32M3D7W
20+15	QPSK	1720.0	1772.2	25.20	23.50	0.224	32276	32M3G7W
	16QAM			24.69	22.99	0.199	32301	32M3D7W
20+5	QPSK	1720.0	1776.7	25.20	23.50	0.224	22795	22M8G7W
	16QAM			24.66	22.96	0.198	22779	22M8D7W
5+20	QPSK	1713.3	1770.0	25.20	23.50	0.224	22544	22M5G7W
	16QAM			24.40	22.70	0.186	22448	22M4D7W
20+20	QPSK	1720.0	1770.0	25.20	23.50	0.224	37439	37M4G7W
	16QAM			24.81	23.11	0.205	37310	37M3D7W

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 0.21.02-1.

6.4. MAXIMUM ANTENNA GAIN

The antenna(s) gain and type, as provided by the manufacturer' are as follows:

LTE Bands	Antenna Gain (dBi)						
	ANT 1	ANT 2	ANT 3	ANT 4	ANT 7	ANT 8	ANT 9
LTE Band 5, 824 – 849 MHz	-4.8	-6.2					
LTE Band 7, 2500 – 2570 MHz	-3.7	-1.6	0.2	0.2			
LTE Band 41, 2496 – 2690 MHz (FCC)	-3.7	-1.6	0.2	0.2			
LTE Band 48, 3550 – 3700 MHz (FCC)				-1.4	-3.1	-3.1	-3.8
LTE Band 66B, 66C, 1710 – 1780 MHz	-2.4	-5.1	-1.7	-3.2			

6.5. WORST-CASE CONFIGURATION AND MODE

The EUT supports LTE dual carrier Bands of: Band 5, Band 7, Band 41, Band 48 and Band 66.

The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM and 64QAM modulations. It was found that QPSK and 16QAM results were worst case. All testing was performed using QPSK and 16QAM modulations to represent the worst case. Conducted tests were performed on the worst case antenna port because it has the highest conducted power. ANT1 is the worst case antenna port for all bands except LTE Band 48. For LTE Band 48 ANT7 is the worst case antenna port.

The EUT was investigated in three orthogonal orientations X/Y/Z on all ANT 1, ANT2, ANT3, ANT4, ANT7, ANT8 and ANT 9 antennas to determine the worst case orientation. The following table exabit the worst case orientation for different frequency bands. The full tests of the EUT have made upon the orientations that shown in the table below.

Frequency Bands	ANT1	ANT2	ANT3	ANT4	ANT7	ANT8	ANT9
824 – 849 MHz	X	X	N/A	N/A	N/A	N/A	N/A
1710 – 1910 MHz	X	X	Y	X	N/A	N/A	N/A
2500 – 2690 MHz	X	Z	Y	X	N/A	N/A	N/A
3350 – 3700 MHz	N/A	N/A	N/A	X	X	Z	X

For Band Edge and Emission Mask: The highest BW combo was tested. The RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.

For Out of Band Emissions: The highest bandwidth combination was tested. The highest power RB combination was selected as worst case.

Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 1GHz.

For interband transmission of multiple channels in different antenna combination in Cellular bands, tests were conducted for various configurations having the highest power, least separation in frequencies and widest operation bandwidths. No noticeable new emission was found.

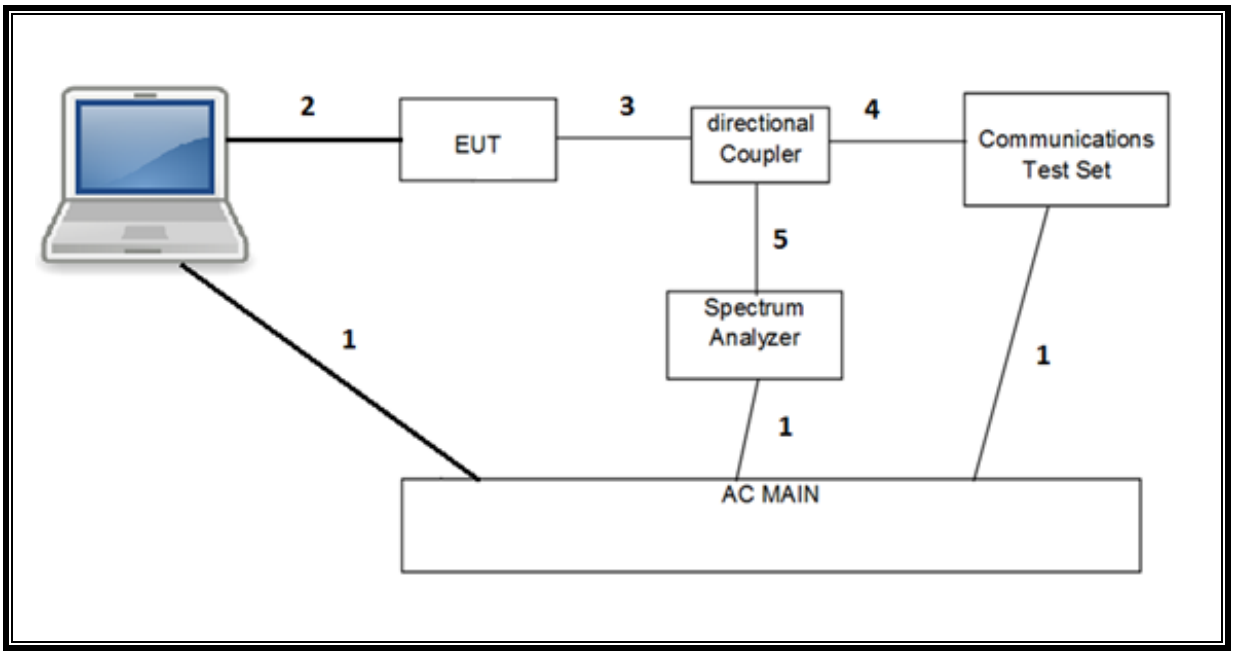
6.6. DESCRIPTION OF TEST SETUP

\SUPPORT TEST EQUIPMENT				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID/ DoC**
Laptop	A1398	C02PM012G3QD	QDS-BRCM1069	A1398
AC/DC adapter	PA-1450-BA1	B123	N/A	PA-1450-BA1

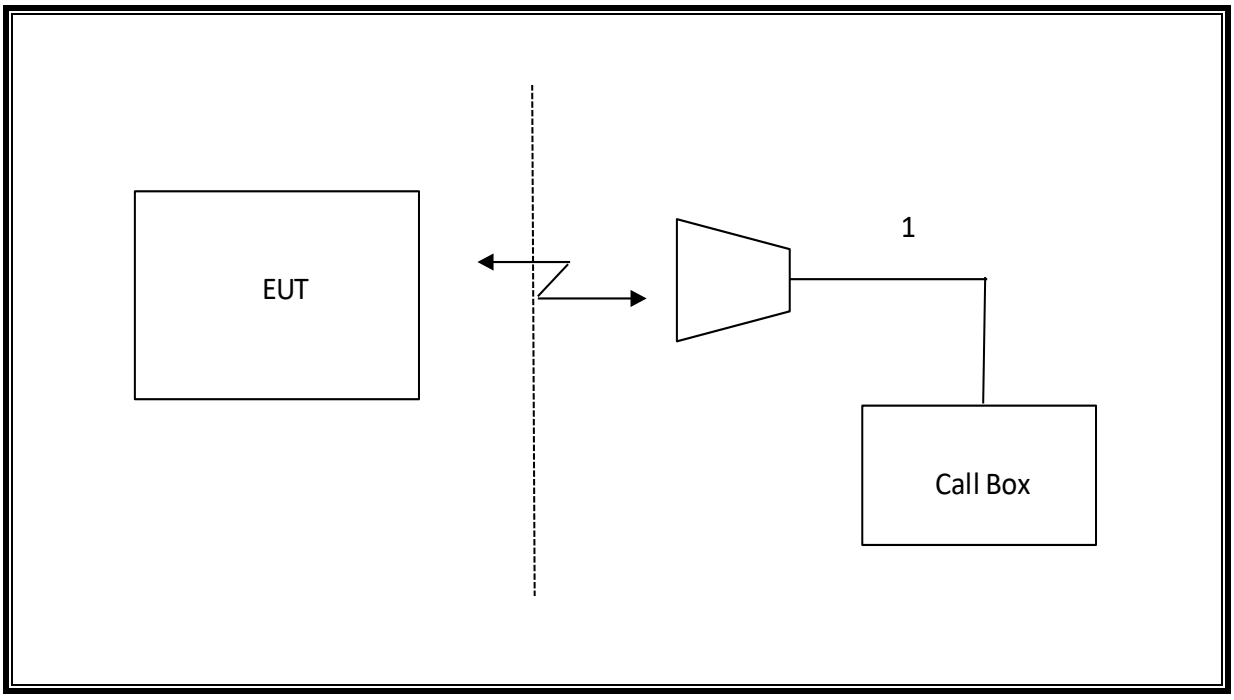
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	3	US 115V	Un-shielded	2.0	N/A
2	USB	1	DC	Un-shielded	1.0	N/A
3	RF In/Out	1	EUT	Un-shielded	0.6	N/A
4	RF In/Out	1	Communication Test Set	Un-shielded	1.2	N/A
5	RF In/Out	1	Barrel	N/A	N/A	N/A

I/O CABLES (RF RADIATED TEST)						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	RF In/Out	1	Antenna	Un-shielded	5.0	N/A

CONDUCTED SETUP



RADIATED SETUP



7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T136	7/7/2021
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	T899	9/14/2021
RF Amplifier, 1-18GHz	MITEQ	AFS42-00101800-25-S-42	T1165	8/10/2021
Amplifier, 100KHz to 1GHz, 32dB	Keysight Technologies Inc	8447D	T15	01/14/2022
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	T1450	1/21/2022
Wideband Communication Test Set, Call Box	Rohde & Schwarz (Koeln) GmbH & Co. KG	CMW500	T260	Connection Purposes Only
Wideband Communication Test Set, Call Box	Rohde & Schwarz (Koeln) GmbH & Co. KG	CMW500	T703	Connection Purposes Only
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	PRE0213831	12/3/2021
RF Amplifier 1-18GHz, 45dB Min	AMPLICAL	AMP0.1G18-47-20	172122	12/31/2021
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201498	2/25/2022
Wideband Radio Communications Tester	Rohde & Schwarz (Koeln) GmbH & Co. KG	CMW500	T964	2/17/2022
Wideband Communication Test Set, Call Box	Rohde & Schwarz (Koeln) GmbH & Co. KG	CMW500	T972	2/20/2022
Directional Coupler	KRYTAR	152610	T1161	9/16/2021
Directional Coupler	KRYTAR	152610	T1536	9/16/2021
Directional Coupler	KRYTAR	152610	T1537	9/16/2021
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T754	6/21/2021
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T1154	6/21/2021
Filter, High Pass 1.2GHz	MICRO-TRONICS	HPM50108	T1737	6/23/2021
Filter, BRF 3400 to 3800MHz	MICRO-TRONICS	BRM50711-02	T1792	6/23/2021
Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826/B	T449	4/22/2022
Amplifier, 1 to 26.5GHz, 23.5dB Gain minimum	Keysight Technologies Inc	8449B	T404	4/19/2022
Antenna, Horn 26.5 to 40GHz	A.R.A.	MWH-2640/B	PRE0182201	4/22/2022
Amplifier, 26 - 40GHz	MITEQ	TTA2640-35-HG	T1864	4/19/2022
Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826/B	T449	4/22/2022
Antenna, Active Loop 9KHz to 30MHz	EMCO	6502	T1616	12/02/2021
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	Ver 3.2.5, 4/13/2021	
Power Measurement Software	UL	UL RF	Ver 3.1.2 5/17/2021	
Radiated test software	UL	UL RF	Ver 9.5, 4/14/2021	

NOTES:

1. * Testing is completed before equipment expiration date.
2. ** Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

8. RF OUTPUT POWER VERIFICATION

RULE PART(S)

FCC: §2.1046, §22.913, §27.50

RESULT

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted output powers as follows:

8.1.1. LTE BAND 5

Test Engineer ID:	39004	Test Date:	4/30/2021

OUTPUT POWER FOR LTE BAND 5 (3.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 1				ANT 2			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
3MHz / 5MHz	825.5	829.4	1	14	1	0	25.53	25.49	**24.87**	**23.60**	24.54	**24.67**	**24.19**	**22.94**
			15	0	25	0	**25.70**	25.09	24.23	23.29	24.66	24.53	23.65	22.73
	834.0	837.9	1	14	1	0	25.49	**25.68**	24.37	23.49	24.59	24.65	23.29	22.50
			15	0	25	0	25.66	25.32	24.28	23.34	**24.70**	23.84	22.93	21.85
	842.5	846.5	1	14	1	0	25.45	25.06	23.70	22.80	24.64	24.45	23.05	22.18
			15	0	25	0	25.62	24.94	23.98	22.99	24.69	24.56	23.62	22.67

OUTPUT POWER FOR LTE BAND 5 (5.0MHz + 3.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 1				ANT 2			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 3MHz	826.5	830.4	1	24	1	0	25.09	**25.70**	**24.54**	**23.63**	24.29	**24.59**	**24.13**	**23.21**
			25	0	15	0	**25.32**	24.90	23.89	22.88	24.52	24.38	23.39	22.59
	835.0	838.9	1	24	1	0	24.97	25.23	23.95	22.97	24.39	24.48	23.21	22.27
			25	0	15	0	25.28	24.91	23.90	22.86	24.57	23.87	22.89	21.85
	843.6	847.5	1	24	1	0	24.98	24.96	23.71	22.76	24.64	24.44	23.28	22.36
			25	0	15	0	25.20	24.42	23.37	22.43	**24.70**	24.26	23.18	22.19

OUTPUT POWER FOR LTE BAND 5 (5.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 1				ANT 2			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 10MHz	826.5	833.7	1	24	1	0	**25.70**	24.82	**24.15**	20.88	24.64	24.32	23.06	19.86
			25	0	50	0	23.74	22.76	22.81	20.80	22.85	21.95	23.04	19.91
	831.6	838.8	1	24	1	0	25.55	25.22	23.91	20.84	**24.70**	24.40	23.08	19.92
			25	0	50	0	23.71	22.86	23.81	20.79	22.90	22.00	23.08	19.92
	836.8	844.0	1	24	1	0	25.46	**25.25**	23.92	**20.90**	**24.70**	**24.44**	**23.10**	**20.10**
			25	0	50	0	23.66	22.78	24.03	20.72	22.86	21.99	21.94	19.92

OUTPUT POWER FOR LTE BAND 5 (10.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 1				ANT 2			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz/ 5MHz	829.0	836.2	1	49	1	0	**25.70**	24.40	23.26	20.57	24.68	23.77	**23.22**	19.86
			50	0	25	0	23.78	22.76	22.81	**20.78**	22.72	21.84	21.81	19.86
	834.3	841.5	1	49	1	0	**25.70**	**24.88**	**23.57**	20.46	24.64	**24.31**	22.67	19.77
			50	0	25	0	23.79	22.78	22.77	20.73	22.72	21.80	21.83	19.84
	839.3	846.5	1	49	1	0	25.47	24.82	23.23	20.56	**24.70**	24.05	22.92	**20.02**
			50	0	25	0	23.77	22.78	22.75	20.62	22.71	21.81	21.78	19.82

OUTPUT POWER FOR LTE BAND 5 (10.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 1				ANT 2			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz/ 10MHz	829.0	838.9	1	49	1	0	**25.70**	25.04	**24.00**	**20.93**	**24.70**	23.93	**23.03**	19.83
			1	0	1	49	15.24	15.61	15.58	15.51	14.18	14.56	14.52	14.45
			50	0	50	0	23.80	22.82	22.85	20.91	22.78	21.82	21.84	19.85
	831.5	841.4	1	49	1	0	25.61	**25.22**	23.76	20.80	24.65	24.08	22.81	19.84
			1	0	1	49	15.15	15.72	15.38	15.33	14.08	14.67	14.34	14.32
			50	0	50	0	23.79	22.82	22.39	20.92	22.79	21.92	21.87	**19.93**
	834.1	844.0	1	49	1	0	25.63	25.21	23.78	20.73	24.68	**24.19**	22.74	19.81
			1	0	1	49	15.15	15.70	15.37	15.31	14.07	14.65	14.33	14.30
			50	0	50	0	23.76	22.79	22.84	20.88	22.78	21.81	21.20	19.92

8.1.2. LTE BAND 7

Test Engineer ID:	39004	Test Date:	3/9/2021

OUTPUT POWER FOR LTE BAND 7 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	2505.5	2519.9	1	49	1	0	**25.70**	24.68	22.95	20.73	23.16	22.18	**21.15**	18.12	**25.20**	**24.14**	20.04	18.83	**23.20**	**22.60**	**21.75**	18.44
			50	0	100	0	23.90	22.94	22.00	**21.01**	21.33	20.38	20.37	**18.40**	23.23	21.37	19.88	18.85	21.39	20.45	20.27	**18.48**
	2525.6	2540.0	1	49	1	0	25.57	**24.87**	**23.39**	20.75	**23.20**	**22.32**	20.12	18.09	24.05	23.44	19.77	19.16	22.89	21.85	19.86	18.06
			50	0	100	0	23.78	22.78	22.54	20.91	21.28	20.22	20.25	18.28	22.44	21.44	20.73	**19.51**	22.85	21.86	20.15	18.04
	2545.6	2560.0	1	49	1	0	25.56	24.74	22.58	20.58	23.17	22.19	20.70	17.99	24.36	23.48	**21.07**	19.29	22.78	22.12	21.22	17.79
			50	0	100	0	23.66	22.54	22.15	20.81	21.16	20.17	20.18	18.17	22.40	21.38	20.61	19.44	20.99	20.08	20.06	18.16

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	2510.0	2524.4	1	99	1	0	25.13	24.17	21.85	20.88	**23.20**	**22.27**	20.10	**18.41**	**25.20**	24.44	21.41	20.06	**23.20**	**22.44**	**20.65**	**18.02**
			100	0	50	0	24.14	23.09	22.38	**21.19**	21.32	20.31	20.18	18.37	23.52	22.47	21.24	20.51	21.36	19.83	19.85	17.93
	2530.1	2544.5	1	99	1	0	**25.70**	23.04	21.51	19.60	22.88	21.94	18.60	17.06	24.43	23.18	19.80	18.32	21.95	21.01	19.28	16.44
			100	0	50	0	23.97	22.92	22.41	21.11	21.19	20.15	**20.19**	18.24	23.34	22.27	21.53	20.35	20.35	19.29	19.34	17.41
	2550.1	2564.5	1	99	1	0	25.22	**24.24**	**23.34**	21.04	22.90	22.10	19.43	17.89	24.73	**24.68**	21.45	20.08	22.18	21.24	19.74	17.39
			100	0	50	0	23.84	22.94	22.16	21.04	21.16	20.09	20.17	18.18	23.96	22.87	**22.00**	**21.01**	20.40	19.36	19.34	17.38

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 15MHz	2507.5	2522.5	1	74	1	0	**25.70**	24.53	22.87	20.90	23.15	22.10	**21.43**	18.39	**25.20**	**24.31**	20.95	**20.09**	**23.20**	**22.06**	**21.67**	18.33
			75	0	75	0	24.13	23.25	22.08	**21.01**	21.34	20.37	20.12	**18.42**	23.25	22.31	20.80	19.92	21.31	19.63	20.38	**18.37**
	2527.5	2542.5	1	74	1	0	25.66	24.65	22.05	20.70	**23.20**	22.38	18.74	18.10	24.69	24.01	19.45	18.97	22.67	21.81	20.06	17.60
			75	0	75	0	23.78	22.78	22.36	20.93	21.31	20.38	20.32	18.31	23.05	22.10	21.10	20.04	20.86	19.86	19.88	17.89
	2547.5	2562.5	1	74	1	0	25.63	**24.82**	**23.27**	20.60	23.14	**23.14**	20.15	18.12	24.85	23.98	**21.38**	19.78	22.54	21.72	20.18	17.51
			75	0	75	0	23.68	22.84	21.99	20.86	21.22	21.22	20.13	18.23	22.92	22.00	20.93	20.00	20.83	19.78	19.77	17.74

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 20MHz	2507.8	2524.9	1	74	1	0	25.63	24.49	21.92	20.57	**23.20**	22.23	**21.27**	18.38	**25.20**	**24.42**	20.82	**20.14**	**23.20**	**22.05**	**21.68**	**18.35**
			75	0	100	0	23.98	23.08	21.91	**20.82**	21.42	20.51	20.12	**18.54**	23.25	22.31	20.75	19.81	21.28	20.31	20.37	18.34
	2525.3	2542.4	1	74	1	0	**25.70**	**24.71**	**22.60**	20.52	23.19	**22.38**	19.18	18.12	24.76	23.96	19.88	19.35	22.81	21.94	20.41	17.71
			75	0	100	0	23.98	23.10	22.10	20.72	21.31	20.35	20.19	18.34	23.05	22.03	**21.12**	19.40	20.93	19.92	19.94	17.97
	2542.9	2560.0	1	74	1	0	25.58	24.10	22.08	20.36	23.13	22.32	20.61	18.10	25.12	22.10	20.82	19.57	22.44	21.56	20.05	17.36
			75	0	100	0	23.51	22.62	21.74	20.65	21.15	20.32	19.51	18.26	22.66	21.68	20.97	19.91	20.72	19.75	19.73	17.74

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	2510.0	2527.1	1	99	1	0	25.05	**25.10**	23.25	20.94	**23.20**	**22.38**	21.15	18.43	25.12	24.32	22.70	20.42	**23.20**	**22.18**	**21.75**	18.35
			100	0	75	0	24.13	23.11	22.06	**21.08**	21.49	20.50	20.43	**18.55**	23.53	22.54	21.63	**20.59**	21.37	20.35	20.35	**18.40**
	2527.6	2544.7	1	99	1	0	25.64	24.59	22.11	20.39	23.11	22.14	20.48	18.28	25.19	**24.39**	21.70	20.35	22.49	21.60	20.65	17.71
			100	0	75	0	23.97	23.04	22.27	20.99	21.35	20.34	20.40	18.38	23.43	22.44	21.86	20.51	20.90	19.89	19.91	17.93
	2545.1	2562.2	1	99	1	0	**25.70**	24.97	**23.74**	20.84	23.13	22.20	**21.64**	18.24	**25.20**	24.29	**23.17**	20.34	22.51	21.75	21.12	17.54
			100	0	75	0	23.63	22.29	21.87	20.42	21.33	20.32	20.37	18.33	23.43	22.42	21.53	20.47	20.82	19.82	19.84	17.83

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz/ 20MHz	2510.0	2529.8	1	99	1	0	**25.70**	**24.96**	**23.09**	20.54	**23.20**	**22.45**	**21.86**	18.42	**25.20**	24.31	**23.13**	20.37	**23.20**	**22.25**	**21.81**	18.24
			1	0	1	99	16.80	16.78	17.01	16.36	14.33	14.17	13.58	13.50	16.54	16.45	16.58	16.44	14.68	14.28	14.33	14.87
			100	0	100	0	23.93	22.92	21.63	**20.72**	21.49	20.50	20.37	**18.54**	23.53	22.54	21.57	**20.63**	21.33	20.31	20.34	**18.37**
	2525.1	2544.9	1	99	1	0	25.19	24.13	22.13	20.54	23.17	22.25	20.33	18.41	13.60	**24.32**	22.44	20.43	22.62	21.65	0.06	17.77
			1	0	1	99	16.59	16.57	17.20	16.49	14.46	14.35	14.00	14.31	16.23	16.47	16.58	16.25	14.25	14.68	14.35	14.87
			100	0	100	0	23.86	22.86	21.74	20.61	21.43	20.41	20.38	18.48	23.47	22.44	21.74	20.51	20.99	19.96	19.97	18.01
	2540.2	2560.0	1	99	1	0	25.40	24.60	22.61	20.40	23.11	22.27	21.76	18.28	13.68	24.19	22.61	20.29	22.38	21.58	20.94	17.50
			1	0	1	99	16.63	16.40	16.89	16.74	14.58	14.36	13.77	14.03	16.28	16.70	16.58	16.66	14.58	14.68	14.47	14.28
			100	0	100	0	23.65	22.32	21.59	20.56	21.42	20.41	20.26	18.51	23.45	22.41	21.56	20.48	20.82	19.82	19.81	17.79

8.1.3. LTE BAND 41

Test Engineer ID:	10641	Test Date:	6/1/2021

OUTPUT POWER FOR LTE BAND 41 (5.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 20MHz	2499.3	2511.0	1	24	1	0	20.25	20.43	20.17	20.03	18.12	18.23	18.05	17.52	19.10	19.26	19.66	19.96	18.77	18.60	18.76	18.65
			25	0	100	0	20.42	20.39	20.50	20.46	18.02	17.94	17.96	18.02	19.24	19.35	19.25	19.98	18.91	18.84	18.26	18.96
	2583.8	2595.5	1	24	1	0	27.44	**26.39**	25.05	**22.43**	**25.00**	23.64	**23.13**	**20.34**	**26.50**	25.36	**24.72**	21.08	**25.00**	23.55	**22.79**	19.74
			25	0	100	0	25.66	24.67	24.28	22.24	23.15	22.24	22.10	20.11	24.17	23.19	23.29	21.29	23.29	22.36	21.95	**20.02**
	2668.3	2680.0	1	24	1	0	**27.50**	26.21	**25.43**	22.27	24.82	**23.70**	22.80	19.68	26.41	**25.39**	24.50	**21.96**	24.93	**24.15**	22.74	19.61
			25	0	100	0	25.56	24.56	24.20	22.10	23.02	21.88	21.97	20.01	24.07	23.17	23.17	21.19	23.13	22.20	21.85	19.96

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 5MHz	2506.0	2517.7	1	99	1	0	**27.50**	26.29	**25.10**	22.81	24.49	23.44	22.81	**20.79**	26.07	**25.90**	24.47	**22.54**	24.87	**24.42**	**22.93**	19.55
			100	0	25	0	20.79	20.80	20.72	21.38	18.56	18.33	18.53	18.53	19.71	19.66	19.45	19.32	19.17	19.25	19.22	17.40
	2590.5	2602.2	1	99	1	0	27.13	26.23	22.96	22.36	**25.00**	**23.92**	**23.13**	20.54	**26.50**	25.41	25.00	22.38	**25.00**	23.39	22.89	**20.11**
			100	0	25	0	26.23	24.17	24.27	22.26	23.44	22.28	22.30	20.23	26.30	24.09	24.25	22.22	23.06	22.07	22.02	20.02
	2675.0	2686.7	1	99	1	0	27.11	**26.37**	24.94	**23.36**	24.41	23.12	22.97	20.18	26.30	25.41	**25.04**	22.25	24.98	23.39	22.77	19.93
			100	0	25	0	25.13	24.09	24.13	23.23	22.81	21.94	22.18	20.12	25.00	24.09	24.19	22.13	22.94	21.95	21.94	19.89

OUTPUT POWER FOR LTE BAND 41 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	2501.5	2515.9	1	49	1	0	20.21	20.50	19.87	20.34	18.47	18.46	18.34	17.48	20.13	20.05	20.10	20.23	18.23	18.75	17.90	17.79
			50	0	100	0	20.45	19.83	20.45	20.41	18.73	18.79	18.12	17.76	20.03	19.84	20.21	20.12	18.26	18.24	18.01	17.75
	2583.6	2598.0	1	49	1	0	**27.50**	**26.29**	**25.81**	22.65	**25.00**	**23.51**	**23.27**	**20.33**	**26.50**	**25.49**	**25.19**	**22.24**	**25.00**	**23.38**	**23.94**	**20.92**
			50	0	100	0	25.77	24.83	24.73	**22.75**	23.10	22.11	22.32	20.32	26.42	24.16	24.21	22.19	23.21	22.29	22.81	20.85
	2665.6	2680.0	1	49	1	0	27.43	26.26	25.62	22.47	24.87	23.38	22.67	20.20	26.42	25.36	24.99	22.20	24.60	23.36	22.85	20.73
			50	0	100	0	25.63	24.66	24.56	22.53	22.98	22.00	22.12	20.22	25.01	24.07	24.10	22.15	23.09	22.11	22.74	20.80

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 2				ANT 1				ANT 4				ANT 3			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	2506.0	2520.4	1	99	1	0	**27.50**	26.67	**25.49**	22.65	**25.00**	**24.20**	22.88	**20.70**	26.50	**25.68**	**24.90**	21.96	24.87	**24.51**	**23.59**	**19.91**
			100	0	50	0	20.74	20.80	20.82	20.81	18.11	18.14	18.30	18.34	19.74	19.78	20.30	19.47	18.25	18.28	18.77	17.88
	2588.1	2602.5	1	99	1	0	27.23	**27.00**	25.09	**22.97**	25.00	23.54	**22.94**	20.25	26.49	25.60	24.47	**22.35**	**25.00**	23.83	22.50	19.79
			100	0	50	0	25.39	24.45	24.63	22.71	22.94	21.92	22.08	20.13	25.20	24.20	24.26	22.30	23.11	22.14	21.63	19.69
	2670.1	2684.5	1	99	1	0	27.21	26.39	25.22	22.78	24.55	23.98	22.61	20.10	**26.50**	25.68	24.33	21.60	24.93	23.57	22.72	19.67
			100	0	50	0	25.29	24.32	24.39	22.50	22.83	21.67	21.99	19.96	25.08	24.11	24.15	22.23	22.98	21.97	21.55	19.54

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 15MHz	2503.5	2518.5	1	74	1	0	**27.50**	26.27	25.12	22.46	**25.00**	23.53	**22.80**	**20.39**	**26.50**	**25.93**	24.50	21.85	24.94	**23.57**	22.60	19.47
			75	0	75	0	20.81	20.74	20.78	20.65	18.15	18.28	18.47	18.47	19.54	19.57	20.03	19.28	19.29	19.30	20.23	18.28
	2585.5	2600.5	1	74	1	0	27.49	26.25	**25.51**	22.56	24.97	23.62	22.75	20.17	26.29	25.33	24.94	22.01	**25.00**	23.53	**22.97**	19.95
			75	0	75	0	25.74	24.73	24.82	**22.75**	23.01	22.05	22.28	20.25	25.02	24.04	24.08	**22.08**	23.19	22.27	21.99	**19.97**
	2667.5	2682.5	1	74	1	0	27.38	**26.90**	25.03	22.68	24.69	**23.77**	22.67	20.04	26.29	25.28	**24.94**	21.91	25.00	23.55	22.62	19.92
			75	0	75	0	25.56	24.57	24.59	22.60	22.85	21.88	22.10	20.03	24.89	24.02	23.97	21.92	23.07	22.17	21.92	19.91

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 20MHz	2503.8	2520.9	1	74	1	0	**27.50**	26.21	**25.69**	22.68	**25.00**	23.49	22.52	**20.41**	**26.50**	**26.01**	24.29	22.03	24.92	**23.67**	22.48	19.63
			75	0	100	0	20.72	20.83	20.71	20.74	18.68	18.24	18.31	18.27	26.32	19.62	20.32	19.27	18.31	18.38	18.29	18.14
	2583.3	2600.4	1	74	1	0	27.33	**26.29**	**25.69**	22.63	24.66	23.62	**22.97**	20.01	26.32	25.32	**24.94**	22.02	**25.00**	23.51	**22.99**	**19.92**
			75	0	100	0	25.76	24.84	24.88	22.78	22.78	21.88	22.07	20.04	24.63	24.05	24.08	**22.07**	23.22	22.30	21.92	19.91
	2662.9	2680.0	1	74	1	0	**27.50**	26.22	25.02	22.62	24.60	**24.06**	22.78	19.90	26.25	25.26	24.86	21.93	24.79	23.54	22.93	19.84
			75	0	100	0	26.05	25.13	25.17	**23.07**	22.65	21.75	21.71	19.96	24.89	23.94	23.98	21.94	23.06	22.13	21.85	19.84

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	2506.0	2523.1	1	99	1	0	**27.50**	26.01	**25.48**	**22.71**	**25.00**	**23.66**	22.60	**20.52**	**26.50**	**25.68**	24.34	22.04	24.42	**23.59**	22.63	**20.40**
			100	0	75	0	20.56	20.62	20.68	20.60	18.24	18.27	18.51	18.50	19.46	19.53	20.22	19.29	18.55	18.57	18.85	18.22
	2585.6	2602.7	1	99	1	0	27.48	**26.22**	25.45	22.36	24.75	23.50	**22.82**	20.23	26.25	25.24	**24.85**	22.12	24.76	23.45	**22.79**	19.99
			100	0	75	0	25.59	24.63	24.62	22.60	23.08	22.08	22.31	20.27	24.99	24.02	24.16	**22.15**	23.25	22.28	22.01	20.01
	2665.1	2682.2	1	99	1	0	27.39	26.20	25.28	22.52	24.82	23.40	22.65	20.14	26.23	25.24	24.85	22.06	**25.00**	23.49	22.41	19.91
			100	0	75	0	25.51	24.49	24.57	22.56	22.92	21.94	22.17	20.16	24.90	23.90	24.04	22.01	23.12	22.16	21.90	19.93

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 20.0MHz

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz/ 20MHz	2506.0	2525.8	1	99	1	0	**27.50**	26.05	25.23	22.56	**25.00**	23.90	22.73	**20.45**	**26.50**	**25.81**	24.52	**22.48**	24.57	24.21	22.89	**20.36**
			1	0	1	99	14.65	14.51	14.66	14.81	12.41	12.29	12.22	12.39	14.37	14.21	14.48	13.76	12.44	12.36	12.54	12.23
			100	0	100	0	20.65	20.60	20.72	20.73	18.44	18.48	18.41	18.32	19.55	19.64	20.32	20.31	18.65	17.72	18.28	18.36
	2583.1	2602.9	1	99	1	0	**27.50**	26.07	**25.46**	**22.80**	24.92	**24.48**	22.93	20.06	26.33	25.23	**24.86**	22.06	**25.00**	**24.41**	**22.94**	20.10
			1	0	1	99	18.67	18.86	18.61	18.91	16.10	16.00	16.08	16.43	17.96	17.84	17.54	17.79	16.33	16.22	16.29	16.03
			100	0	100	0	25.71	24.76	24.84	22.73	23.23	22.23	22.05	20.12	25.04	24.09	24.12	22.13	23.49	22.38	22.05	20.12
	2660.2	2680.0	1	99	1	0	27.45	**26.49**	25.37	22.52	24.89	24.44	**23.00**	20.32	26.31	25.16	24.84	22.13	24.71	24.35	22.92	20.02
			1	0	1	99	18.57	18.68	18.89	18.73	16.21	16.11	16.48	16.17	17.99	17.81	17.71	17.86	16.48	16.36	16.44	16.12
			100	0	100	0	25.98	24.82	24.72	22.70	23.15	22.15	22.05	20.35	24.87	23.89	23.98	22.05	23.26	22.25	22.07	20.07

8.1.4. LTE BAND 48

Test Engineer ID:	39004	Test Date:	5/24/2021

OUTPUT POWER FOR LTE BAND 48 (5.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 7				ANT 8				ANT 9				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 20MHz	3553.3	3565.0	1	24	1	0	19.62	20.02	20.18	19.82	17.06	17.51	17.60	17.36	19.43	18.89	19.44	19.26	17.18	16.97	16.77	**17.64**
			25	0	100	0	13.46	13.41	13.54	13.66	10.77	10.98	10.87	10.85	13.17	12.35	12.23	12.47	10.52	10.55	10.62	10.58
	3615.8	3627.5	1	24	1	0	**23.45**	**23.62**	**23.70**	20.52	**20.73**	**21.00**	**20.99**	**17.98**	**23.00**	**23.20**	**22.49**	19.31	**20.40**	**20.50**	**20.31**	17.63
			25	0	100	0	21.55	21.65	22.43	**20.57**	18.83	18.89	18.79	17.87	21.21	20.30	21.08	**20.18**	17.67	18.56	18.50	17.51
	3678.3	3690.0	1	24	1	0	19.85	19.80	20.28	20.08	17.05	17.37	17.62	17.22	19.52	19.04	19.17	18.92	16.95	16.86	16.91	17.07
			25	0	100	0	13.46	13.55	13.60	13.58	10.54	10.67	10.63	10.64	13.27	12.45	12.40	12.47	9.60	10.51	10.54	10.55

OUTPUT POWER FOR LTE BAND 48 (20.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 7				ANT 8				ANT 9				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 5MHz	3560.0	3571.7	1	99	1	0	20.71	20.75	20.46	**20.89**	17.20	17.37	17.47	17.21	19.06	19.99	18.92	19.06	17.27	17.44	17.52	**17.28**
			100	0	25	0	13.65	13.70	13.73	13.61	11.14	11.19	11.21	11.18	13.08	13.24	13.21	13.22	10.54	11.36	10.33	10.29
	3622.5	3634.2	1	99	1	0	**23.58**	**23.68**	**23.70**	20.69	**21.00**	**20.88**	**20.75**	18.03	**23.20**	**22.87**	**22.85**	19.46	**19.96**	**20.36**	**20.50**	17.16
			100	0	25	0	21.71	21.78	21.79	20.74	19.06	19.09	19.08	**18.10**	21.26	21.19	21.27	**20.27**	18.22	18.21	18.20	17.18
	3685.0	3696.7	1	99	1	0	20.72	20.82	20.51	20.77	16.84	17.08	17.19	16.93	19.21	19.24	18.96	19.41	16.98	17.33	17.34	17.12
			100	0	25	0	13.67	13.69	13.80	13.80	10.81	10.83	10.90	10.78	13.20	13.18	13.38	13.36	10.11	9.98	10.12	10.09

OUTPUT POWER FOR LTE BAND 48 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 7				ANT 8				ANT 9				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	3555.5	3569.9	1	49	1	0	18.99	19.31	19.26	19.99	16.99	17.21	17.51	16.73	18.51	18.89	19.84	19.38	15.99	16.08	15.86	16.41
			50	0	100	0	14.23	14.25	14.60	14.27	11.87	11.69	11.77	11.54	13.74	13.79	13.45	13.69	11.42	10.98	11.42	11.58
	3615.6	3630.0	1	49	1	0	**24.20**	**24.18**	**23.26**	20.11	**21.13**	**21.50**	**20.79**	17.70	**23.78**	**23.70**	**22.64**	19.61	**20.32**	**21.00**	**20.49**	**17.59**
			50	0	100	0	21.56	21.36	20.84	**20.27**	18.22	18.36	18.69	**17.79**	20.31	20.39	20.76	**19.71**	17.91	17.51	17.95	16.99
	3675.6	3690.0	1	49	1	0	19.20	19.17	19.02	19.02	16.46	16.82	16.57	16.61	19.24	19.08	19.05	18.94	15.90	15.87	15.74	15.67
			50	0	100	0	14.33	14.43	14.42	14.52	11.60	11.64	11.61	11.63	13.87	14.05	13.99	14.07	11.04	10.78	10.99	11.05

OUTPUT POWER FOR LTE BAND 48 (20.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 7				ANT 8				ANT 9				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	3560.0	3574.4	1	99	1	0	19.14	19.12	18.94	**20.37**	16.24	16.28	16.10	17.18	18.71	19.05	18.83	19.03	15.97	15.85	15.69	16.03
			100	0	50	0	14.10	14.12	14.14	14.28	11.50	11.23	11.24	11.21	14.03	14.06	14.05	14.05	10.90	10.78	11.05	10.87
	3620.1	3634.5	1	99	1	0	**24.16**	**24.20**	**23.20**	20.14	**21.20**	**21.50**	**20.31**	**17.22**	**23.57**	**23.70**	**22.90**	**20.31**	**20.83**	**21.00**	**20.16**	16.88
			100	0	50	0	20.68	20.67	20.66	20.17	17.87	17.63	17.88	17.09	20.62	20.58	21.04	20.11	17.57	17.43	17.36	**16.91**
	3680.1	3694.5	1	99	1	0	19.24	19.34	18.83	19.17	16.73	16.50	16.76	16.16	19.01	19.18	18.76	19.12	16.43	15.54	15.87	15.89
			100	0	50	0	14.22	14.24	14.50	14.47	11.77	11.55	11.86	11.68	13.98	14.13	14.15	14.19	10.80	10.74	10.88	10.52

OUTPUT POWER FOR LTE BAND 48 (15.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 7				ANT 8				ANT 9				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 20MHz	3557.8	3574.9	1	74	1	0	19.50	19.72	19.53	19.59	16.81	17.07	16.98	17.78	18.84	18.99	18.78	19.00	16.49	16.76	16.07	16.72
			75	0	100	0	14.66	14.78	14.69	14.68	12.08	12.15	12.13	12.11	13.97	13.56	14.17	14.16	11.69	11.63	11.69	11.58
	3615.3	3632.4	1	74	1	0	**24.25**	**24.70**	**23.33**	20.40	**21.83**	**22.00**	**20.63**	17.88	**24.04**	**24.20**	**23.17**	19.96	**21.50**	**21.44**	**20.14**	17.21
			75	0	100	0	20.89	21.26	21.33	**20.73**	18.46	18.88	18.50	**17.98**	21.11	20.75	20.73	**20.21**	18.10	18.12	18.50	**17.60**
	3672.9	3690.0	1	74	1	0	19.55	19.79	19.63	19.63	16.95	17.25	16.48	17.24	19.18	19.47	18.94	19.45	16.35	16.57	15.85	16.64
			75	0	100	0	14.62	14.83	14.73	14.74	12.72	12.33	12.27	12.30	14.24	14.39	14.43	14.47	10.72	11.39	11.34	11.40

OUTPUT POWER FOR LTE BAND 48 (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 7				ANT 8				ANT 9				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	3560.0	3577.1	1	99	1	0	19.57	19.76	19.56	19.76	17.13	17.27	16.92	17.21	18.91	19.91	18.90	19.28	16.51	16.88	16.99	16.75
			100	0	75	0	14.63	14.74	14.68	14.55	12.13	12.21	12.23	12.20	14.12	14.15	14.12	14.08	11.66	11.68	11.68	11.68
	3617.6	3634.7	1	99	1	0	**24.70**	**24.70**	**23.26**	**20.78**	**21.85**	**22.00**	**20.82**	18.05	**23.83**	**24.20**	**23.03**	**20.38**	**21.39**	**21.50**	**20.61**	**17.73**
			100	0	75	0	21.17	21.23	21.19	20.76	18.48	18.64	18.58	**18.07**	20.62	20.76	20.48	20.19	18.50	18.46	18.24	17.64
	3675.1	3692.2	1	99	1	0	19.53	19.59	19.32	19.69	17.69	17.51	17.08	16.83	19.24	19.36	18.95	19.25	16.46	16.89	16.92	16.71
			100	0	75	0	14.59	14.72	14.75	14.83	12.04	11.91	11.84	11.91	14.26	14.38	14.37	14.39	11.51	11.51	11.60	11.53

OUTPUT POWER FOR LTE BAND 48 (20.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 7				ANT 8				ANT 9				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz/ 20MHz	3560.0	3579.8	1	99	1	0	21.09	21.45	21.04	**20.92**	18.41	18.54	18.18	17.97	20.32	20.93	20.13	19.96	17.89	18.10	18.17	17.45
			1	0	1	99	8.06	8.17	7.85	7.48	5.19	5.28	4.98	4.78	7.25	7.00	6.99	7.10	4.53	4.36	4.88	4.55
			100	0	100	0	14.93	14.87	14.82	14.80	12.01	12.25	12.47	12.32	14.03	14.02	14.05	14.10	11.48	11.58	11.50	11.46
	3615.1	3634.9	1	99	1	0	**24.66**	**24.70**	**23.37**	20.72	**21.88**	**22.00**	**20.75**	**18.17**	**24.07**	**24.20**	**23.02**	20.22	**21.36**	**21.50**	**20.15**	**17.52**
			1	0	1	99	13.78	14.36	13.97	14.36	11.40	11.12	11.30	11.61	13.61	13.44	13.57	13.87	10.80	11.18	10.80	10.78
			100	0	100	0	21.23	21.24	21.68	20.79	18.93	18.78	18.59	17.99	20.55	21.07	20.13	20.20	17.94	18.28	17.92	17.36
	3670.2	3690.0	1	99	1	0	21.21	21.45	21.01	20.87	18.27	18.47	18.25	17.92	20.81	20.89	20.47	**20.32**	17.67	18.03	17.77	17.41
			1	0	1	99	8.00	8.02	7.71	8.12	4.71	4.91	4.72	4.95	6.34	7.41	7.07	7.36	4.31	4.49	4.29	4.34
			100	0	100	0	14.94	14.55	14.88	14.92	11.67	11.88	11.88	11.89	14.21	14.32	14.33	14.36	11.33	11.40	11.40	11.32

8.1.5. LTE BAND 66B

Test Engineer ID:	10641	Test Date:	6/13/2021

OUTPUT POWER FOR LTE BAND 66B (5.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 5MHz	1712.5	1717.3	1	24	1	0	25.46	24.39	23.53	20.27	23.42	22.03	**21.64**	18.17	25.15	**24.38**	**23.31**	20.26	23.43	22.61	21.61	18.50
			25	0	50	0	23.50	22.46	22.46	**20.58**	21.44	20.43	20.38	18.41	23.23	22.30	22.25	**20.30**	21.51	20.56	20.51	18.55
	1752.6	1757.4	1	24	1	0	25.44	**24.67**	23.63	20.50	23.56	**22.71**	21.37	18.34	**25.20**	24.37	23.27	20.23	18.50	22.61	21.57	18.49
			25	0	50	0	23.50	22.56	22.52	20.52	21.32	20.39	20.34	18.38	23.20	22.26	22.21	20.23	18.55	20.52	20.48	18.50
	1772.7	1777.5	1	24	1	0	**25.70**	24.62	**23.74**	20.01	**23.70**	22.63	21.63	**18.86**	25.11	24.28	23.28	20.06	**23.70**	**22.61**	**21.66**	**18.88**
			25	0	50	0	23.83	22.97	22.93	20.14	21.85	20.92	20.87	18.74	23.09	22.07	22.10	20.23	21.81	20.79	20.56	18.59

OUTPUT POWER FOR LTE BAND 66B (5.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 10MHz	1712.8	1720.0	1	24	1	0	25.48	24.71	**23.59**	20.62	**23.70**	22.77	**21.69**	18.66	25.10	**24.35**	23.28	**20.83**	23.69	22.76	21.61	18.55
			25	0	50	0	23.55	22.60	22.52	20.62	21.60	20.63	20.56	18.61	23.68	22.72	22.70	20.73	21.51	20.55	20.36	18.41
	1750.3	1757.5	1	24	1	0	25.50	24.70	23.58	20.55	23.32	22.65	21.52	18.51	**25.20**	24.31	23.31	20.34	23.59	22.69	21.67	18.72
			25	0	50	0	23.53	22.57	22.52	20.58	21.45	20.51	20.45	18.52	23.21	22.22	22.17	20.25	21.63	20.54	20.68	**18.91**
	1767.8	1775.0	1	24	1	0	**25.70**	**24.93**	23.48	**20.97**	23.67	**22.99**	21.52	18.67	25.11	24.12	**23.65**	20.12	**23.70**	**22.76**	**21.72**	18.74
			25	0	50	0	23.77	22.82	22.86	20.74	21.93	20.80	20.90	**18.90**	23.08	23.01	22.15	20.07	21.95	20.90	20.98	18.81

OUTPUT POWER FOR LTE BAND 66B (10.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 5MHz	1715.0	1722.2	1	49	1	0	25.63	**24.79**	23.20	20.51	**23.70**	**22.87**	21.86	**18.96**	**25.20**	24.25	**23.27**	20.25	**23.70**	22.74	21.77	**18.98**
			50	0	25	0	23.76	22.82	22.84	20.82	22.79	20.86	20.90	18.91	23.86	22.84	22.89	**20.35**	21.70	20.70	20.68	18.86
	1752.5	1759.7	1	49	1	0	25.53	24.79	23.22	20.53	23.68	22.76	**22.02**	18.82	**25.20**	24.27	23.10	20.20	23.56	22.70	**21.83**	18.94
			50	0	25	0	23.75	22.73	22.77	20.75	21.74	20.70	20.71	18.78	23.87	22.90	22.86	20.27	21.70	20.81	20.70	18.83
	1770.0	1777.2	1	49	1	0	**25.70**	24.76	**23.96**	**20.94**	23.63	22.38	21.61	18.91	25.05	**24.29**	**23.27**	20.29	23.59	**22.91**	21.78	18.94
			50	0	25	0	23.90	22.94	22.81	20.93	21.73	21.66	20.82	18.87	23.75	22.74	22.68	20.29	21.86	20.68	20.69	18.63

OUTPUT POWER FOR LTE BAND 66B (5.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 15MHz	1713.0	1722.3	1	24	1	0	25.62	24.82	23.82	20.71	**23.70**	**22.90**	21.59	18.52	25.17	**24.53**	**23.49**	20.41	**23.70**	**22.66**	21.56	**18.97**
			25	0	75	0	23.79	22.86	22.83	20.85	21.60	20.64	20.63	18.64	23.41	22.42	22.45	20.45	21.66	20.93	20.66	18.77
	1748.1	1757.4	1	24	1	0	25.60	**24.89**	23.73	20.65	23.63	22.54	21.32	18.26	**25.20**	24.29	23.21	20.18	23.69	22.64	**21.89**	18.92
			25	0	75	0	23.74	22.78	22.78	20.78	21.34	20.37	20.36	18.37	23.18	22.18	22.19	20.22	21.99	20.72	20.6998	18.71
	1763.2	1772.5	1	24	1	0	**25.70**	24.67	**23.96**	**20.98**	23.68	22.84	**21.92**	**18.87**	25.10	24.39	23.47	**20.53**	**23.70**	22.61	21.83	18.59
			25	0	75	0	23.87	22.96	22.94	20.92	21.90	20.98	20.80	18.80	24.16	23.35	22.39	20.26	22.01	20.69	20.37	18.76

OUTPUT POWER FOR LTE BAND 66B (15.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 5MHz	1717.5	1726.8	1	74	1	0	25.37	24.62	23.15	20.47	**23.70**	22.61	21.59	18.41	**25.20**	24.12	23.11	20.35	23.59	**22.70**	21.66	18.42
			75	0	25	0	23.67	22.66	22.73	20.69	21.57	20.62	20.62	18.58	23.17	22.15	22.19	20.21	21.70	20.64	20.36	18.36
	1752.6	1761.9	1	74	1	0	25.69	**24.90**	23.35	20.63	23.62	22.58	21.19	18.33	25.11	24.35	22.82	20.15	**23.70**	22.50	**21.72**	18.22
			75	0	25	0	23.75	22.76	22.80	20.74	21.46	20.48	20.52	18.50	23.29	22.31	22.31	20.29	21.32	20.36	20.39	18.34
	1767.7	1777.0	1	74	1	0	**25.70**	24.78	**23.92**	**20.96**	23.63	**22.68**	**21.86**	**18.98**	25.12	**24.38**	**23.37**	**20.36**	23.57	22.55	21.68	**18.92**
			75	0	25	0	23.84	22.90	22.96	20.83	21.85	20.87	20.89	18.91	23.28	22.29	22.32	20.28	21.75	20.75	20.79	18.77

OUTPUT POWER FOR LTE BAND 66B (10.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz/ 10MHz	1715.0	1724.9	1	49	1	0	**25.70**	24.84	**24.16**	20.87	23.54	22.61	21.05	18.39	**25.20**	24.32	23.20	20.52	23.69	22.42	21.87	18.25
			1	0	1	49	15.31	15.41	15.76	15.1	13.04	13.22	13.55	13.11	14.27	14.74	14.69	14.35	13.64	13.07	13.00	13.83
			50	0	50	0	23.83	22.89	22.90	**20.95**	21.59	20.61	20.62	18.61	23.87	22.88	22.93	20.31	21.35	20.39	20.39	18.39
	1750.1	1760.0	1	49	1	0	25.61	**24.89**	23.74	20.76	23.42	22.52	20.91	18.28	25.15	24.25	**23.34**	20.21	**23.70**	**22.43**	21.24	18.13
			1	0	1	49	15.21	15.8	23.79	15.39	13.91	13.51	13.17	13.18	14.16	14.73	14.41	14.41	13.96	13.02	13.04	13.86
			50	0	50	0	23.73	22.79	22.41	20.85	21.48	20.47	20.49	18.51	23.85	22.83	22.87	**20.85**	21.33	20.35	20.39	18.38
	1765.1	1775.0	1	49	1	0	25.07	24.15	23.46	20.16	**23.70**	**22.95**	**21.80**	18.82	25.11	**24.38**	23.23	20.82	**23.70**	22.36	**21.98**	18.64
			1	0	1	49	14.45	14.58	14.90	14.64	12.83	13.24	13.56	13.39	14.73	14.74	14.75	14.77	13.17	13.10	13.25	13.08
			50	0	50	0	23.96	22.14	22.13	20.14	21.77	21.78	20.86	**18.86**	23.57	23.55	22.45	20.79	21.65	20.91	20.71	**18.76**

8.1.6. LTE BAND 66C

Test Engineer ID:	10641	Test Date:	6/13/2021

OUTPUT POWER FOR LTE BAND 66C (10.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 15MHz	1715.3	1727.3	1	49	1	0	25.63	**24.86**	**23.80**	20.69	**23.71**	22.60	21.61	18.58	25.18	**24.82**	23.25	20.58	23.53	**22.73**	21.27	18.51
			50	0	75	0	23.76	23.19	22.81	20.74	21.74	20.72	20.83	18.81	23.78	22.78	22.79	**20.82**	21.75	20.80	20.46	18.53
	1747.9	1759.9	1	49	1	0	25.70	24.84	23.70	20.59	23.59	22.33	21.61	18.50	**25.20**	24.60	**23.58**	20.49	**23.70**	22.59	**21.65**	18.57
			50	0	75	0	23.76	22.77	22.79	**20.81**	21.74	20.76	20.79	18.78	23.72	22.71	22.75	20.77	21.91	21.04	20.30	**18.71**
	1760.5	1772.5	1	49	1	0	**25.70**	24.81	23.74	20.74	23.57	**22.81**	**21.92**	**19.05**	25.17	24.69	23.23	20.29	23.42	22.44	21.28	18.39
			50	0	75	0	23.79	22.07	22.79	20.11	21.82	20.97	20.68	18.96	23.37	22.30	22.27	20.30	21.96	20.64	20.12	18.53

OUTPUT POWER FOR LTE BAND 66C (15.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 10MHz	1717.5	1729.5	1	74	1	0	**25.70**	**24.82**	23.55	20.76	23.51	22.65	21.14	18.48	25.13	24.63	23.30	20.13	23.68	22.62	21.48	18.62
			75	0	50	0	25.16	22.78	22.24	20.73	21.68	20.70	20.75	18.68	21.08	20.09	20.06	18.00	21.84	20.35	20.23	18.64
	1750.1	1762.1	1	74	1	0	**25.70**	24.79	23.74	**20.96**	**23.74**	22.67	**21.97**	18.54	**25.20**	24.46	23.56	20.26	**23.70**	**22.73**	21.63	**18.73**
			75	0	50	0	24.21	23.25	22.68	20.81	21.69	20.71	20.76	18.69	23.42	22.45	22.49	**20.45**	21.82	20.43	20.40	18.66
	1762.7	1774.7	1	74	1	0	25.67	24.69	**23.84**	20.76	23.58	**22.77**	21.92	**18.88**	25.02	**24.64**	**23.59**	20.34	23.69	22.33	**21.72**	18.64
			75	0	50	0	24.00	23.03	22.78	20.71	21.81	20.85	20.88	18.86	23.27	22.31	22.63	20.27	21.72	20.20	20.32	18.47

OUTPUT POWER FOR LTE BAND 66C (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	1715.5	1729.9	1	49	1	0	25.67	**24.94**	23.76	20.68	23.67	22.90	21.35	18.63	25.11	**24.35**	23.31	20.74	**23.70**	**22.91**	21.56	**18.75**
			50	0	100	0	23.74	22.79	22.78	20.71	21.77	20.76	20.85	18.80	23.82	22.81	22.82	**20.86**	21.68	20.68	20.61	18.65
	1745.6	1760.0	1	49	1	0	**25.70**	24.68	23.74	**20.84**	**23.70**	22.82	21.59	**18.94**	**25.20**	24.25	23.24	20.49	23.56	22.86	**21.79**	18.73
			50	0	100	0	23.76	22.75	22.71	20.76	21.73	20.72	20.80	18.79	23.72	22.71	22.76	20.76	21.59	20.59	20.81	18.58
	1755.6	1770.0	1	49	1	0	**25.70**	24.74	**23.79**	20.81	23.66	**22.94**	**21.87**	18.90	25.01	24.16	**23.35**	20.38	23.51	22.61	21.68	18.48
			50	0	100	0	23.98	22.80	22.90	20.79	21.83	20.87	20.91	18.77	23.26	22.35	22.24	20.17	21.98	20.75	20.69	18.26

OUTPUT POWER FOR LTE BAND 66C (20.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	1720.0	1734.4	1	99	1	0	25.69	**24.95**	23.59	20.79	23.58	22.95	**21.94**	18.73	25.14	24.14	23.69	20.21	**24.26**	**23.87**	22.64	18.65
			100	0	50	0	23.76	22.67	22.71	20.89	21.75	20.72	20.75	18.72	23.20	22.25	22.32	20.35	21.72	20.59	20.72	18.33
	1750.1	1764.5	1	99	1	0	25.68	24.78	**23.99**	**20.99**	23.69	22.84	21.77	18.78	**25.20**	24.63	23.29	**20.54**	24.14	**23.87**	**22.66**	18.55
			100	0	50	0	23.85	22.84	22.86	20.86	21.69	20.69	20.70	18.72	23.54	22.52	22.46	**20.54**	21.64	20.67	20.69	18.35
	1760.1	1774.5	1	99	1	0	**25.70**	24.81	23.98	20.86	**23.70**	**22.97**	21.62	18.75	25.19	**24.79**	**23.75**	20.47	23.70	23.13	22.37	18.76
			100	0	50	0	23.91	22.94	22.96	20.94	21.85	20.86	20.88	**18.91**	23.36	23.23	22.33	20.39	21.81	20.82	20.83	**18.85**

OUTPUT POWER FOR LTE BAND 66C (15.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 15MHz	1717.5	1732.5	1	74	1	0	**25.70**	24.79	**23.77**	20.50	23.64	22.71	21.17	18.44	24.91	23.92	22.97	19.83	23.68	**22.86**	21.78	18.53
			75	0	75	0	23.76	23.29	23.30	**20.99**	21.67	20.74	20.77	18.74	23.23	22.25	22.30	20.34	21.40	20.35	20.49	18.45
	1747.5	1762.5	1	74	1	0	25.65	24.75	23.70	20.97	**23.70**	22.68	21.73	**18.97**	**25.20**	24.58	22.98	20.31	23.43	22.67	21.32	18.25
			75	0	75	0	23.85	23.26	23.27	20.86	21.72	20.73	20.77	18.80	23.51	22.53	22.53	**20.55**	21.06	20.15	20.17	18.30
	1757.5	1772.5	1	74	1	0	25.56	**24.99**	23.71	20.74	23.59	**22.91**	**21.81**	18.81	25.01	**24.69**	**23.24**	20.32	**23.70**	22.35	**21.94**	**18.98**
			75	0	75	0	23.86	22.87	23.00	20.91	21.83	20.85	20.89	18.88	23.28	22.29	22.37	20.36	21.78	20.85	20.79	18.80

OUTPUT POWER FOR LTE BAND 66C (15.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 20MHz	1717.8	1734.9	1	74	1	0	25.64	24.76	23.75	20.52	23.59	22.72	21.28	18.62	24.98	24.19	22.61	19.99	23.67	22.56	21.10	18.10
			75	0	100	0	23.72	22.75	23.30	20.79	21.76	20.78	20.83	18.81	23.32	22.35	22.36	20.36	21.00	20.89	20.67	**18.81**
	1745.3	1762.4	1	74	1	0	**25.70**	24.81	23.75	20.56	**23.70**	22.71	**21.94**	**18.97**	**25.20**	**24.54**	23.02	20.33	23.62	22.61	21.43	18.09
			75	0	100	0	24.26	22.78	23.31	**20.80**	21.79	20.78	20.82	18.78	23.54	22.56	22.57	**20.58**	21.03	20.72	20.81	18.07
	1752.9	1770.0	1	74	1	0	25.67	**24.99**	**23.79**	20.58	23.64	**22.81**	21.31	18.52	25.12	24.24	**23.13**	20.13	**23.70**	**22.78**	**21.88**	18.72
			75	0	100	0	23.86	22.86	22.99	20.37	21.30	20.42	20.45	18.33	23.26	22.16	22.29	20.45	21.94	20.68	20.92	18.01

OUTPUT POWER FOR LTE BAND 66C (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	1720.0	1737.1	1	99	1	0	25.66	24.40	23.93	20.62	23.62	22.51	21.38	18.75	25.13	24.07	23.52	20.12	23.77	22.41	21.06	18.58
			100	0	75	0	23.67	22.66	22.70	20.68	21.78	20.78	20.79	18.76	23.35	22.35	22.39	20.41	21.07	20.06	20.09	18.11
	1747.6	1764.7	1	99	1	0	**25.70**	24.79	**23.97**	**20.98**	23.62	22.63	**21.69**	18.84	**25.20**	24.41	**23.71**	20.48	**23.85**	22.48	21.18	**18.95**
			100	0	75	0	23.89	22.89	22.96	20.90	21.75	20.77	20.76	18.76	23.58	22.58	22.59	**20.61**	21.04	20.08	20.08	18.13
	1755.1	1772.2	1	99	1	0	25.61	**24.82**	23.84	20.84	**23.70**	**22.78**	21.49	**18.92**	**25.20**	**24.69**	23.37	20.41	23.82	**22.76**	**21.79**	**18.95**
			100	0	75	0	23.97	22.96	22.93	20.94	21.86	20.84	20.86	18.90	23.25	22.32	22.34	20.37	21.88	20.90	20.94	18.80

OUTPUT POWER FOR LTE BAND 66C (20.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 5MHz	1720.0	1731.7	1	99	1	0	25.67	24.29	23.69	20.50	23.68	22.88	21.73	18.78	25.14	24.25	22.97	20.37	23.53	**22.76**	21.05	**18.97**
			100	0	25	0	23.55	22.62	22.61	20.47	21.67	20.66	20.67	18.69	23.25	22.22	22.27	20.24	21.79	20.82	20.76	18.85
	1752.5	1764.2	1	99	1	0	**25.70**	24.61	**23.77**	**20.76**	**23.70**	22.56	21.68	**18.91**	**25.20**	24.46	**23.95**	**20.55**	23.59	22.52	21.71	18.67
			100	0	25	0	23.59	23.27	22.31	20.68	21.66	20.67	20.68	18.67	23.45	22.47	22.47	20.49	21.67	20.65	20.69	18.71
	1765.0	1776.7	1	99	1	0	25.63	**24.71**	23.14	20.54	23.65	**22.94**	**21.74**	18.86	25.11	**24.66**	23.93	20.34	**23.70**	22.69	**21.78**	18.69
			100	0	25	0	23.94	22.96	22.99	20.56	21.76	20.75	20.79	18.79	23.31	22.29	22.31	20.35	21.85	20.92	20.97	18.88

OUTPUT POWER FOR LTE BAND 66C (5.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 20MHz	1713.3	1725.0	1	24	1	0	25.61	24.75	23.46	20.78	**23.70**	22.08	21.84	18.46	**25.20**	24.21	23.56	20.19	23.39	22.34	**21.88**	18.56
			25	0	100	0	23.73	22.67	22.56	**20.79**	21.28	20.25	20.35	18.22	23.25	22.19	22.22	20.17	21.40	20.41	20.44	18.41
	1745.8	1757.5	1	24	1	0	**25.70**	24.82	23.61	20.59	23.56	22.41	21.41	18.74	25.16	**24.40**	23.27	20.31	23.30	**22.41**	**21.88**	18.58
			25	0	100	0	23.72	22.65	22.54	20.79	21.28	20.33	20.34	**18.76**	23.19	22.19	22.14	20.19	21.38	20.37	20.42	18.37
	1758.3	1770.0	1	24	1	0	25.67	**24.83**	**23.80**	20.71	23.54	**22.81**	**21.93**	18.52	25.06	24.23	**23.61**	**20.66**	**23.70**	22.29	21.08	18.13
			25	0	100	0	23.87	22.92	22.66	20.43	21.74	20.86	20.93	18.62	23.28	22.49	22.21	20.50	21.82	20.89	20.98	**18.97**

OUTPUT POWER FOR LTE BAND 66C (20.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)													
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz/ 20MHz	1720.0	1739.8	1	99	1	0	25.69	24.45	23.89	20.56	23.63	22.94	21.28	18.74	24.92	24.10	23.63	20.20	23.15	**22.80**	**21.46**	18.25
			1	0	1	99	17.31	17.43	17.92	16.38	14.91	15.21	15.52	13.56	17.09	17.17	17.64	16.17	15.59	16.15	15.52	13.81
			100	0	100	0	23.70	22.71	22.75	20.74	21.81	20.81	20.82	18.78	23.42	22.44	22.44	20.45	21.46	20.43	20.48	18.49
	1745.1	1764.9	1	99	1	0	**25.70**	24.66	**23.91**	20.79	23.63	22.91	**21.67**	18.75	**25.20**	24.43	**23.89**	20.44	23.05	22.70	21.43	18.23
			1	0	1	99	17.28	17.35	17.81	16.21	15.31	15.63	15.94	13.94	16.95	17.00	17.48	16.18	15.28	15.85	15.63	14.01
			100	0	100	0	23.92	22.91	22.94	20.91	21.75	20.78	20.76	18.77	23.59	22.54	22.55	**20.58**	21.44	20.41	20.44	18.45
	1750.2	1770.0	1	99	1	0	25.62	**24.75**	23.82	**20.99**	**23.70**	**22.96**	21.39	**19.05**	25.18	**24.81**	23.66	20.38	**23.70**	22.15	21.13	18.54
			1	0	1	99	17.26	17.71	17.54	17.25	14.08	14.84	14.40	12.93	15.79	16.63	16.41	14.80	15.61	16.07	15.67	15.71
			100	0	100	0	23.86	22.74	22.71	20.97	21.86	20.89	20.92	18.88	23.43	22.16	22.42	20.43	21.56	20.91	20.94	**18.94**

9. CONDUCTED TEST RESULTS

9.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the middle channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested. Only QPSK plots are reported to show setting parameter complies with testing method/procedure.

LTE BAND 5

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 5	3MHz + 5MHz BAND QPSK	15/0 + 25/0	836.5	7.4560	7.920
	3MHz + 5MHz BAND 16QAM			7.4707	7.940
	5MHz + 3MHz BAND QPSK	25/0 + 15/0		7.5057	7.892
	5MHz + 3MHz BAND 16QAM			7.4722	7.899
	5MHz + 10MHz BAND QPSK	25/0 + 50/0		13.851	14.66
	5MHz + 10MHz BAND 16QAM			13.827	14.55
	10MHz + 5MHz BAND QPSK	50/0 + 25/0		13.858	14.59
	10MHz + 5MHz BAND 16QAM			13.867	14.63
	10MHz + 10MHz BAND QPSK	50/0 + 50/0		18.829	19.95
	10MHz + 10MHz BAND 16QAM			18.779	20.01

LTE BAND 7

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 7	10MHz + 20MHz BAND QPSK	50/0 + 100/0	2535	28.092	30.20
	10MHz + 20MHz BAND 16QAM			27.887	30.06
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.004	30.21
	20MHz + 10MHz BAND 16QAM			27.993	30.08
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.565	30.74
	15MHz + 15MHz BAND 16QAM			28.512	30.63
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.775	35.16
	15MHz + 20MHz BAND 16QAM			32.784	34.94
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.796	35.09
	20MHz + 15MHz BAND 16QAM			32.765	35.05
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.643	40.09
	20MHz + 20MHz BAND 16QAM			37.594	40.05

LTE BAND 41

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 41 (FCC)	5MHz + 20MHz BAND QPSK	25/0 + 100/0	2593	22.797	23.79
	5MHz + 20MHz BAND 16QAM			22.760	23.88
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		22.787	23.72
	20MHz + 5MHz BAND 16QAM			22.834	23.74
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		27.625	28.78
	10MHz + 20MHz BAND 16QAM			27.625	28.84
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		27.689	28.82
	20MHz + 10MHz BAND 16QAM			27.676	28.85
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.360	29.64
	15MHz + 15MHz BAND 16QAM			28.263	29.58
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.514	33.77
	15MHz + 20MHz BAND 16QAM			32.578	33.85
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.520	33.74
	20MHz + 15MHz BAND 16QAM			32.494	33.69
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.474	39.09
	20MHz + 20MHz BAND 16QAM			37.437	39.00

LTE BAND 48

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 48 (FCC)	5MHz + 20MHz BAND QPSK	25/0 + 100/0	3625	23.286	25.00
	5MHz + 20MHz BAND 16QAM			23.205	25.07
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		23.225	25.03
	20MHz + 5MHz BAND 16QAM			23.268	24.93
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		28.024	30.03
	10MHz + 20MHz BAND 16QAM			28.058	29.99
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.015	29.98
	20MHz + 10MHz BAND 16QAM			27.963	29.92
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.857	35.05
	15MHz + 20MHz BAND 16QAM			32.849	35.09
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.871	34.91
	20MHz + 15MHz BAND 16QAM			32.833	34.79
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.589	40.04
	20MHz + 20MHz BAND 16QAM			37.716	39.94

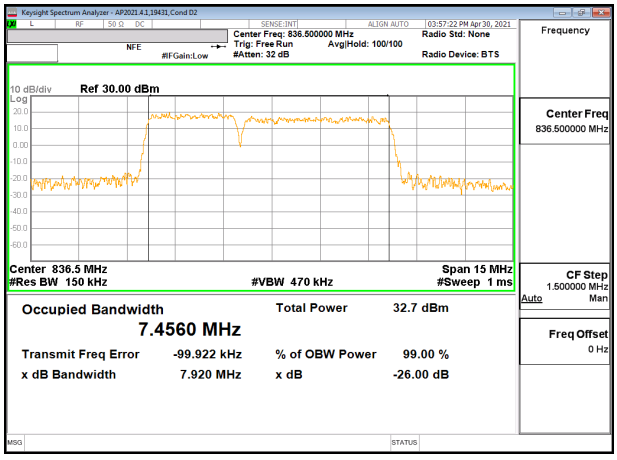
LTE BAND 66B

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 66B	5MHz + 5MHz BAND QPSK	25/0 + 25/0	1745.0	9.196	9.870
	5MHz + 5MHz BAND 16QAM			9.150	9.805
	5MHz + 10MHz BAND QPSK	25/0 + 50/0		13.757	14.532
	5MHz + 10MHz BAND 16QAM			13.707	14.450
	10MHz + 5MHz BAND QPSK	50/0 + 25/0		13.792	14.664
	10MHz + 5MHz BAND 16QAM			13.764	14.562
	5MHz + 15MHz BAND QPSK	25/0 + 75/0		17.870	18.831
	5MHz + 15MHz BAND 16QAM			17.875	18.800
	15MHz + 5MHz BAND QPSK	75/0 + 25/0		18.121	19.051
	15MHz + 5MHz BAND 16QAM			18.086	19.089
	10MHz + 10MHz BAND QPSK	50/0 + 50/0		18.653	19.973
	10MHz + 10MHz BAND 16QAM			18.649	19.899

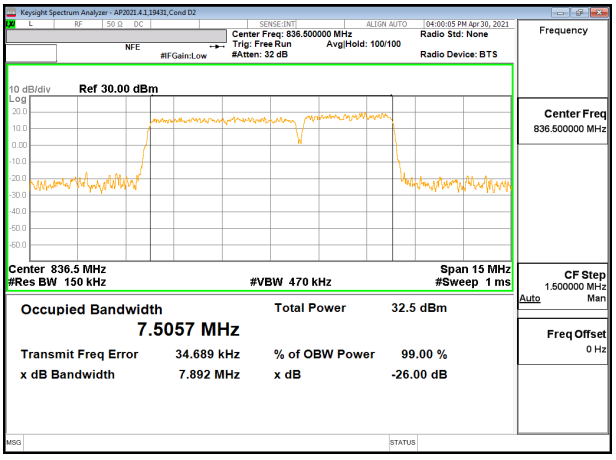
LTE BAND 66C

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE Band 66C	10MHz + 15MHz BAND QPSK	50/0 + 75/10	1745.0	22.840	24.188
	10MHz + 15MHz BAND 16QAM			22.855	23.976
	15MHz + 10MHz BAND QPSK	75/0 + 50/0		22.946	24.290
	15MHz + 10MHz BAND 16QAM			22.900	24.226
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		27.336	28.820
	10MHz + 20MHz BAND 16QAM			27.344	28.712
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		27.587	28.806
	20MHz + 10MHz BAND 16QAM			27.676	28.594
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.078	29.602
	15MHz + 15MHz BAND 16QAM			28.103	29.505
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.332	34.108
	15MHz + 20MHz BAND 16QAM			32.252	34.079
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.276	34.089
	20MHz + 15MHz BAND 16QAM			32.301	34.009
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		22.795	23.97
	20MHz + 5MHz BAND 16QAM			22.779	23.764
	5MHz + 20MHz BAND QPSK	25/0 + 100/0		22.544	23.589
	5MHz + 20MHz BAND 16QAM			22.448	23.620
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.439	40.073
	20MHz + 20MHz BAND 16QAM			37.310	39.910

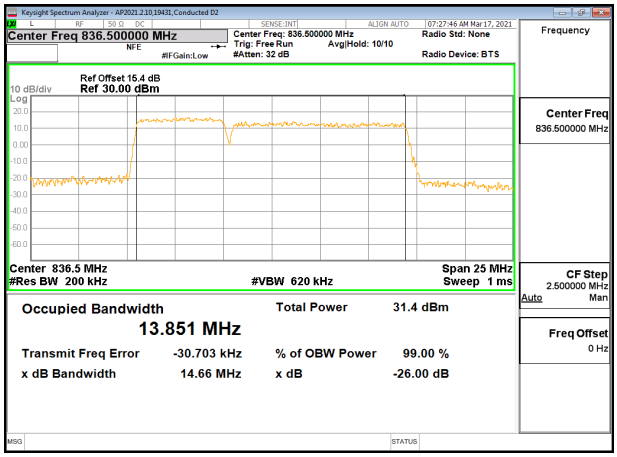
9.1.1. LTE BAND 5



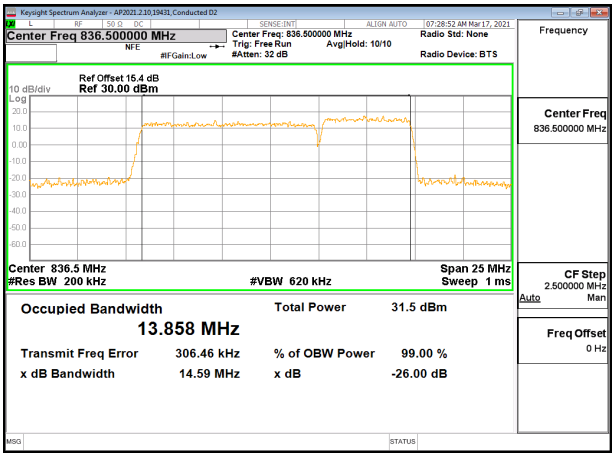
LTE B5 3MHz + 5MHz QPSK RB15-0 + RB25-0



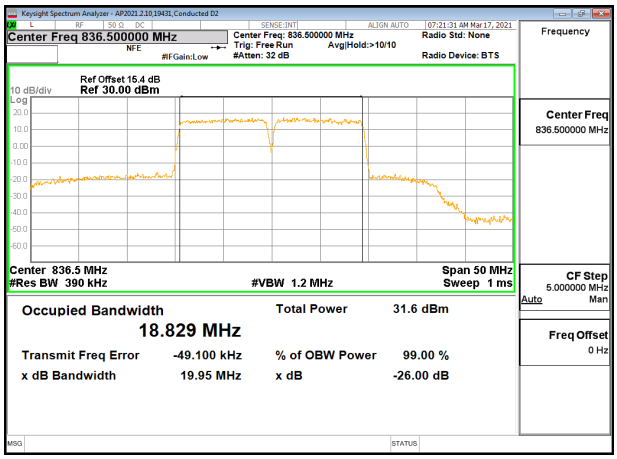
LTE B5 5MHz + 3MHz QPSK RB25-0 + RB15-0



LTE B5 5MHz + 10MHz QPSK RB25-0 + RB50-0

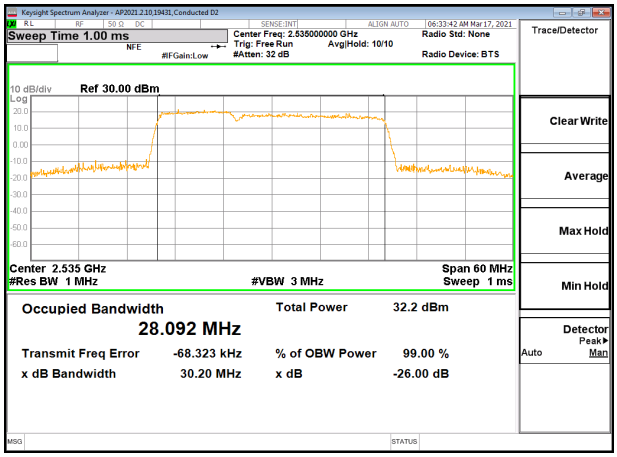


LTE B5 10MHz + 5MHz QPSK RB50-0 + RB25-0

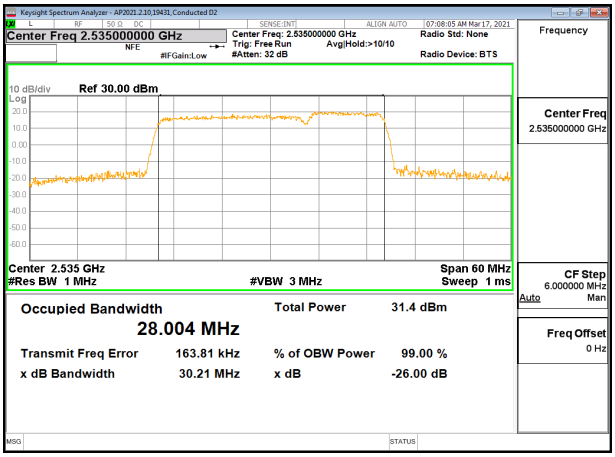


LTE B5 10MHz + 10MHz QPSK RB50-0 + RB50-0

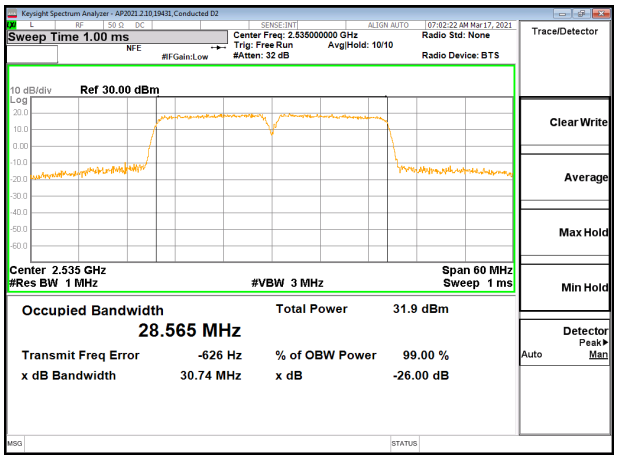
9.1.2. LTE BAND 7



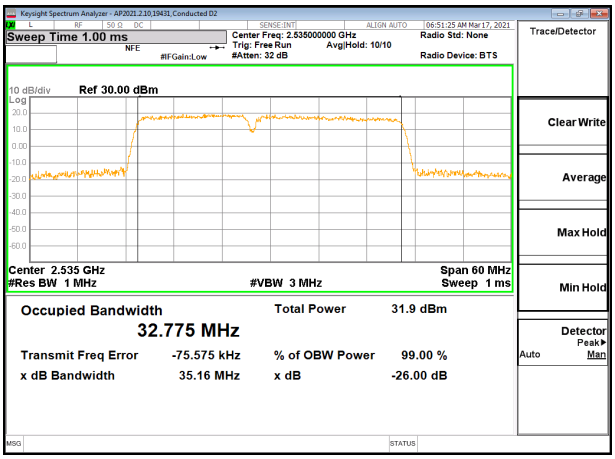
LTE B7 10MHz + 20MHz QPSK RB50-0 + RB100-0



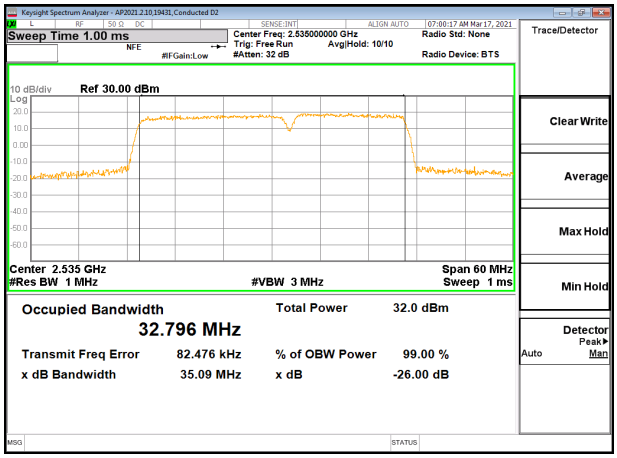
LTE B7 20MHz + 10MHz QPSK RB100-0 + RB50-0



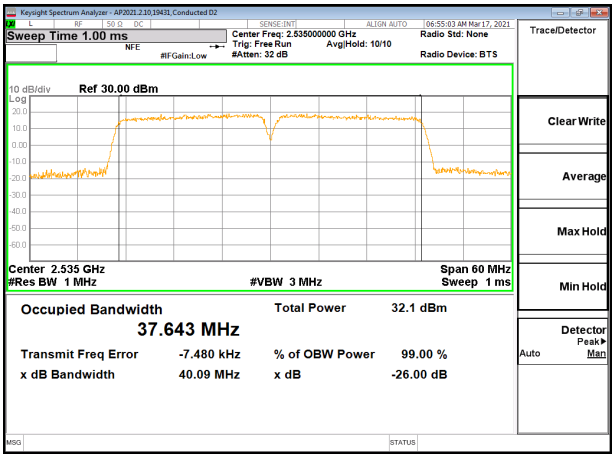
LTE B7 15MHz + 15MHz QPSK RB75-0 + RB75-0



LTE B7 15MHz + 20MHz QPSK RB75-0 + RB100-0

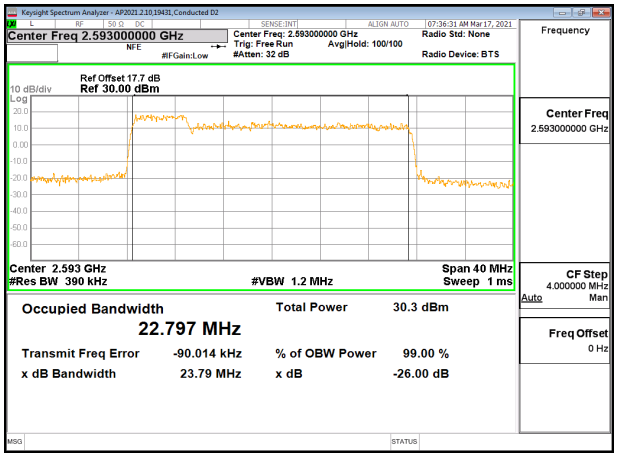


LTE B7 20MHz + 15MHz QPSK RB100-0 + RB75-0

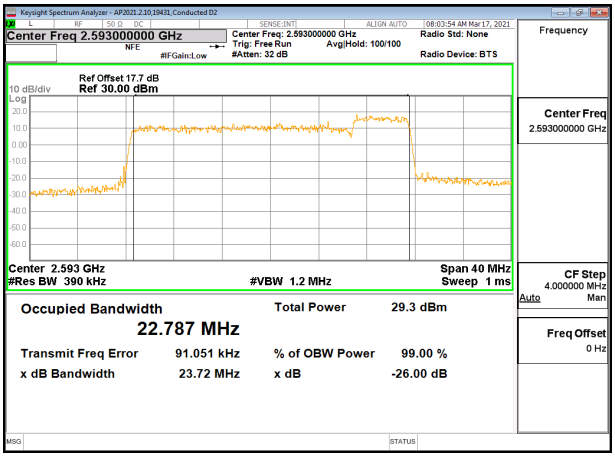


LTE B7 20MHz + 20MHz QPSK RB100-0 + RB100-0

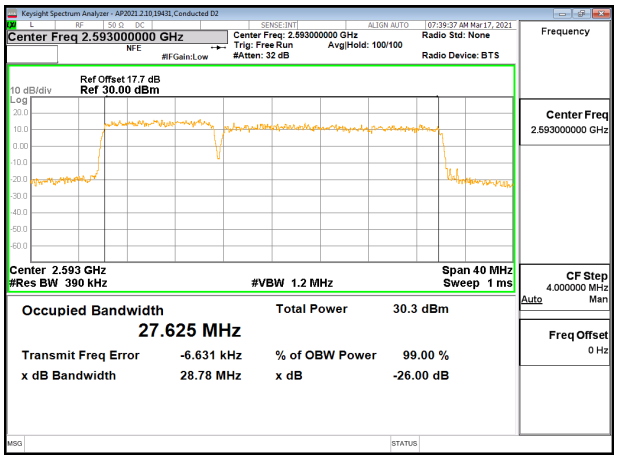
9.1.3. LTE BAND 41



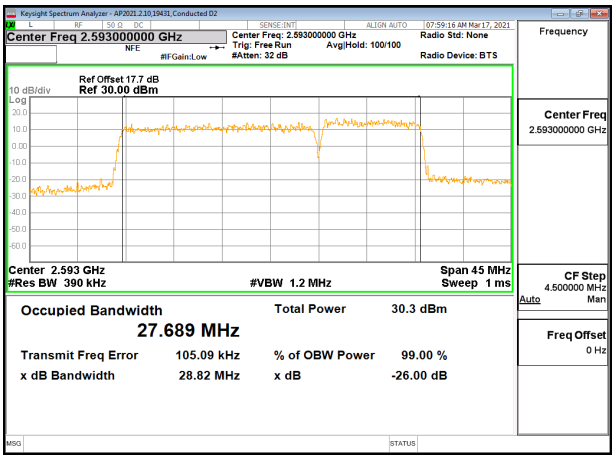
LTE B41 5MHz + 20MHz QPSK RB25-0 + RB100-0



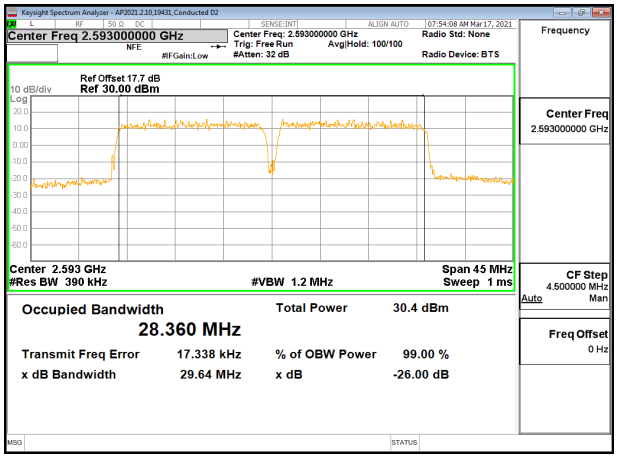
LTE B41 20MHz + 5MHz QPSK RB100-0 + RB25-0



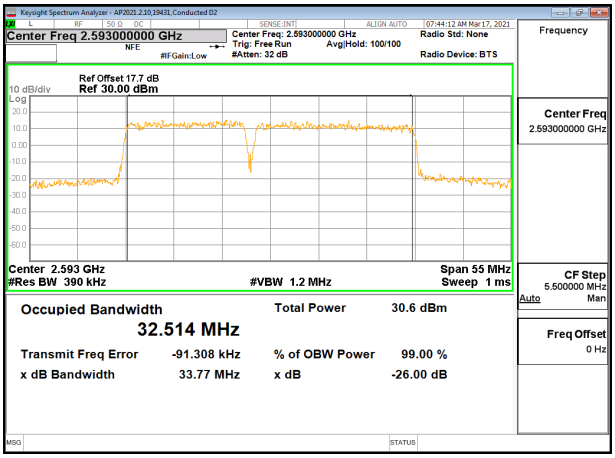
LTE B41 10MHz + 20MHz QPSK RB50-0 + RB100-0



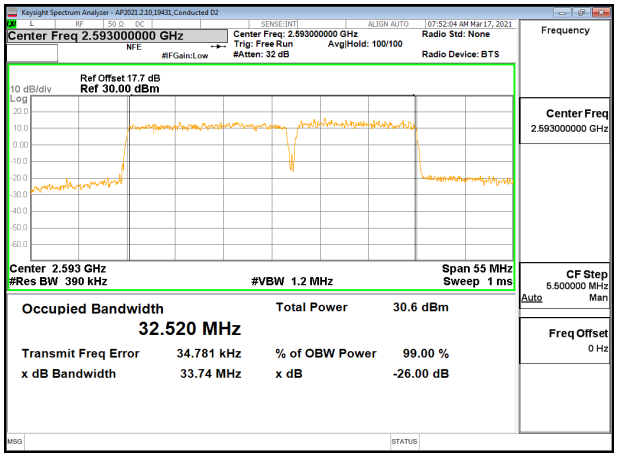
LTE B41 20MHz + 10MHz QPSK RB100-0 + RB50-0



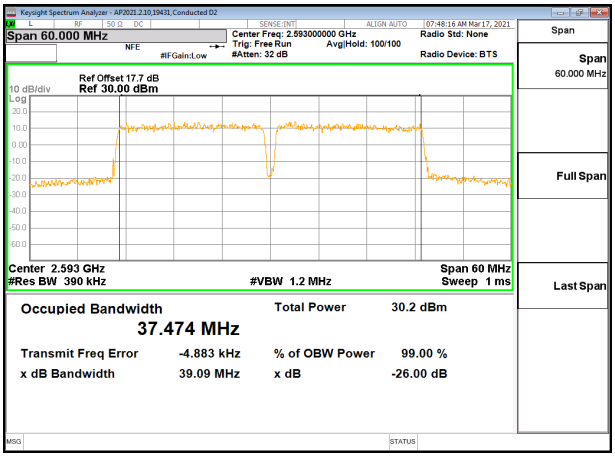
LTE B41 15MHz + 15MHz QPSK RB75-0 + RB75-0



LTE B41 15MHz + 20MHz QPSK RB75-0 + RB100-0

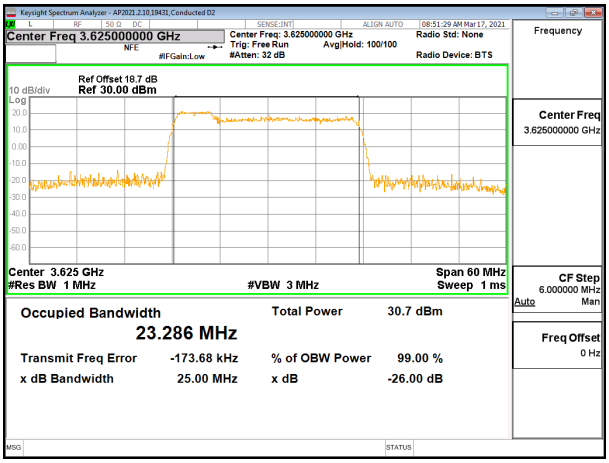


LTE B41 20MHz + 15MHz QPSK RB100-0 + RB75-0

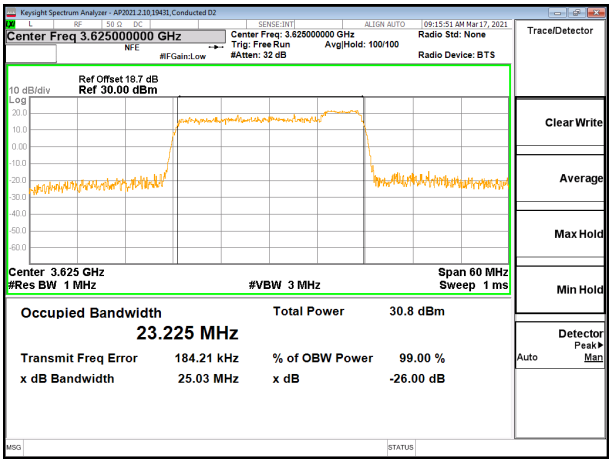


LTE B41 20MHz + 20MHz QPSK RB100-0 + RB100-0

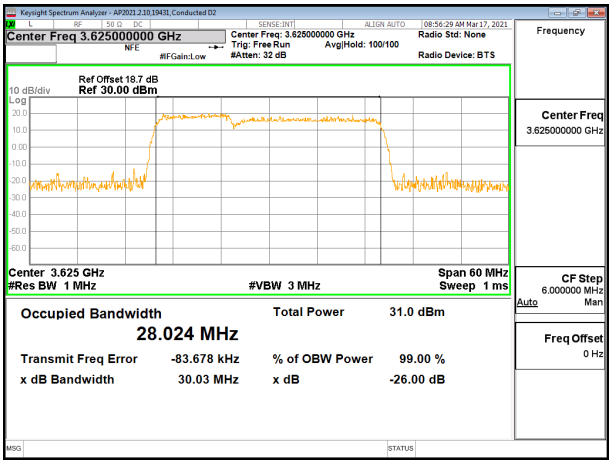
9.1.4. LTE BAND 48



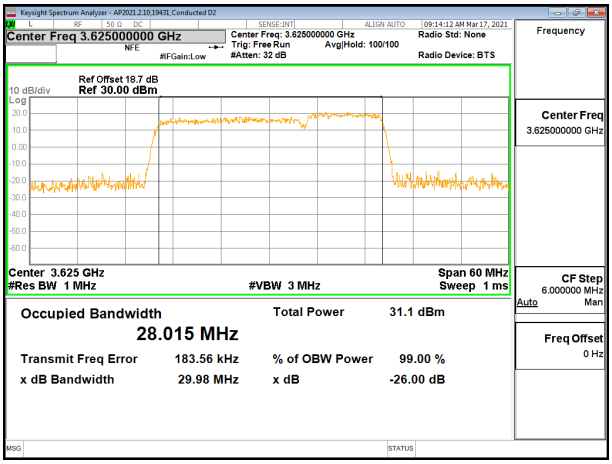
LTE B48 5MHz + 20MHz QPSK RB25-0 + RB100-0



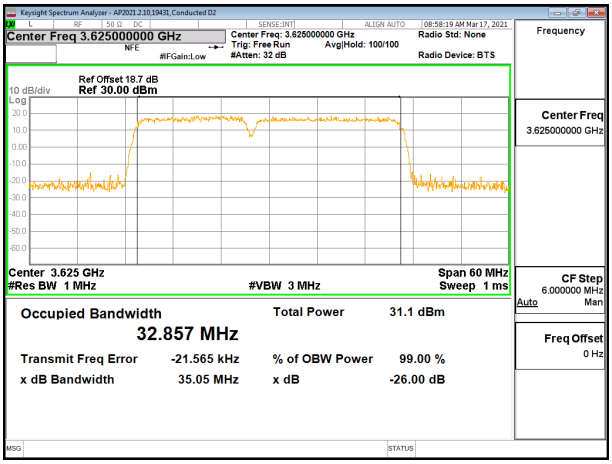
LTE B48 20MHz + 5MHz QPSK RB100-0 + RB25-0



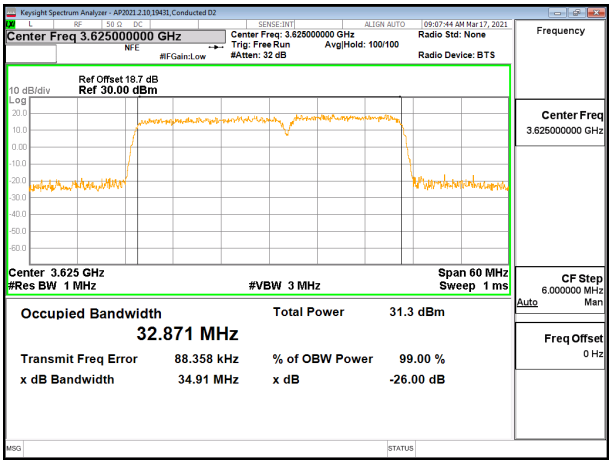
LTE B48 10MHz + 20MHz QPSK RB50-0 + RB100-0



LTE B48 20MHz + 10MHz QPSK RB100-0 + RB50-0

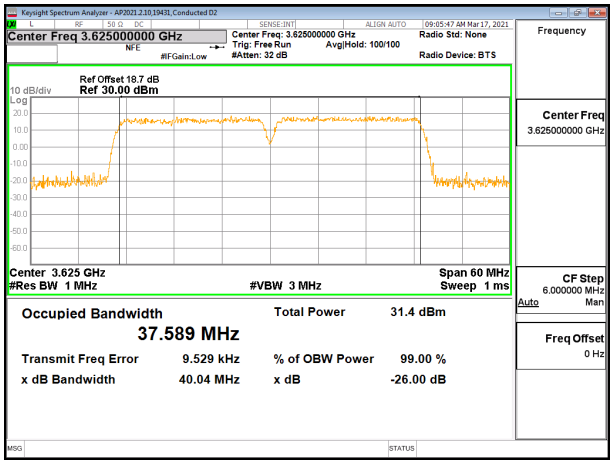


LTE B48 15MHz + 20MHz QPSK RB75-0 + RB100-0



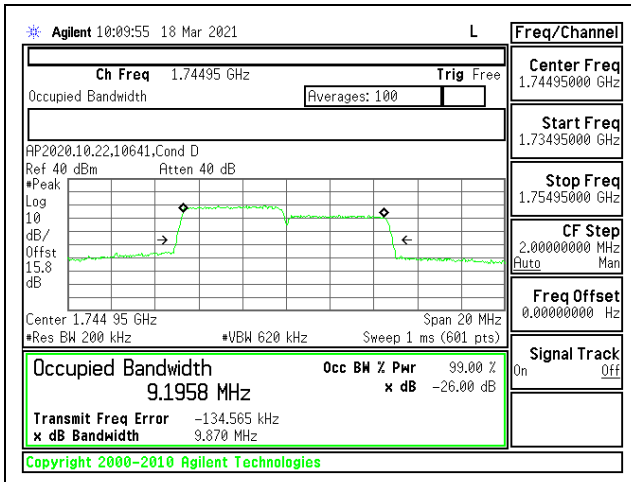
LTE B48 20MHz + 15MHz QPSK RB100-0 + RB75-0

cust

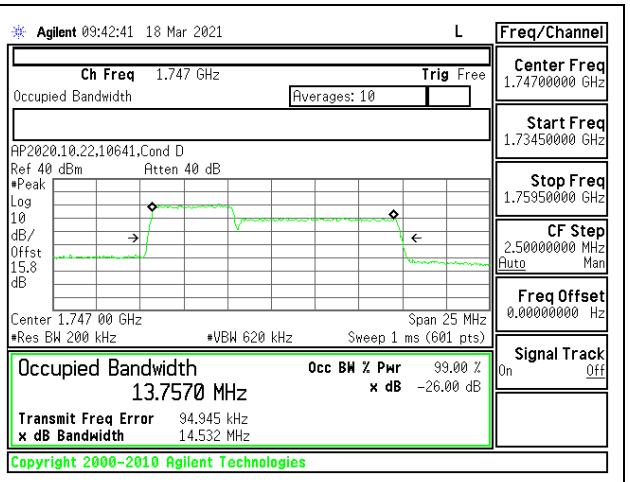


LTE B48 20MHz + 20MHz QPSK RB100-0 + RB100-0

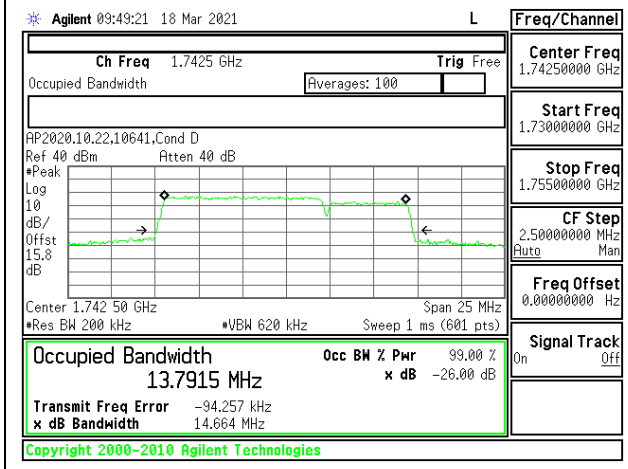
9.1.5. LTE BAND 66B



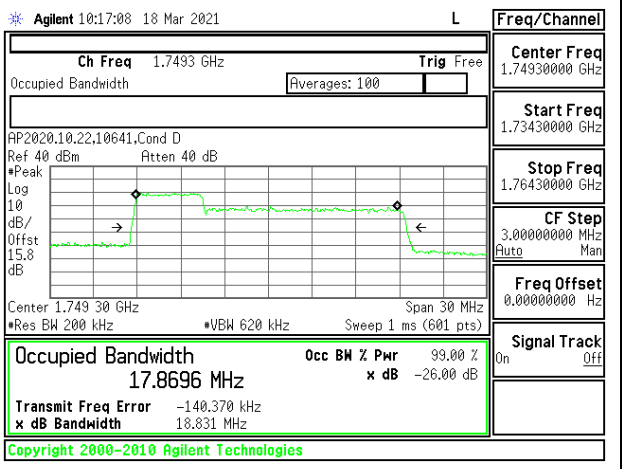
LTE B66B 5MHz + 5MHz QPSK RB25-0 + RB25-0



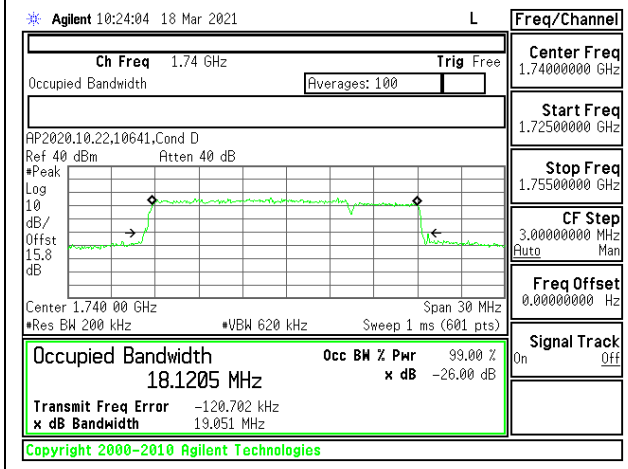
LTE B66B 5MHz + 10MHz QPSK RB25-0 + RB50-0



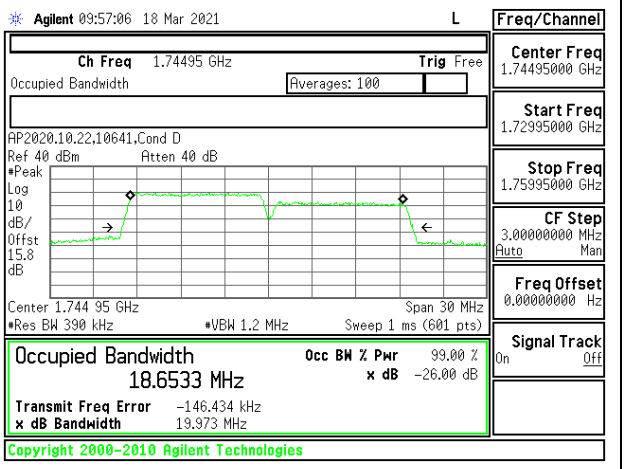
LTE B66B 10MHz + 5MHz QPSK RB50-0 + RB25-0



LTE B66B 5MHz + 15MHz QPSK RB25-0 + RB75-0

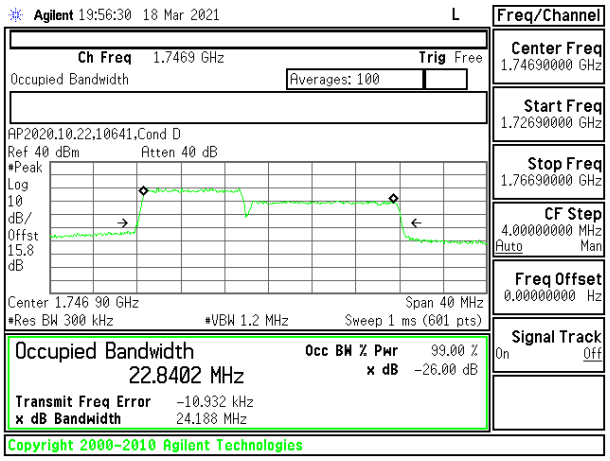


LTE B66B 15MHz + 5MHz QPSK RB75-0 + RB25-0

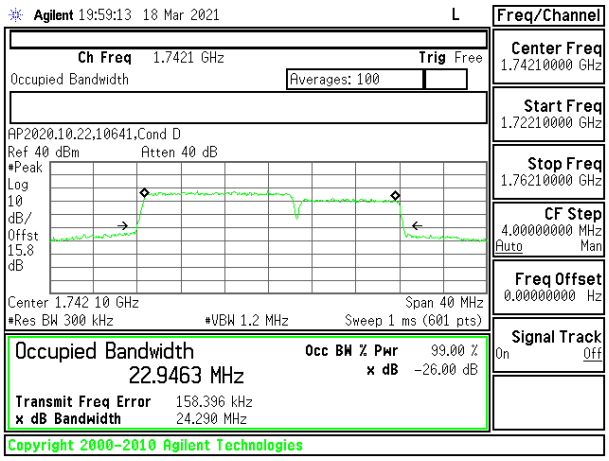


LTE B66B 10MHz + 10MHz QPSK RB50-0 + RB50-0

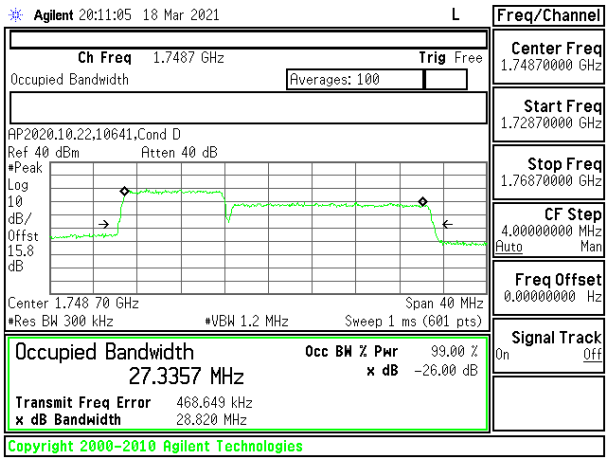
9.1.6. LTE BAND 66C



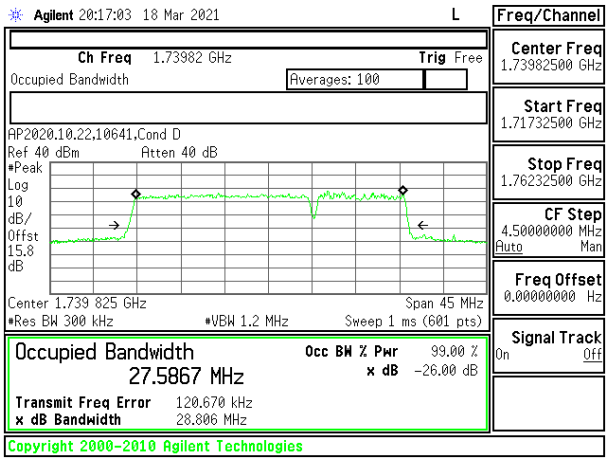
LTE B66C 10MHz + 15MHz QPSK RB50-0 + RB75-0



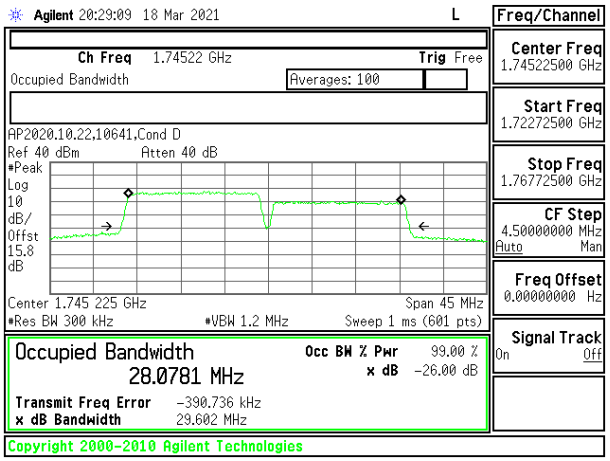
LTE B66C 15MHz + 10MHz QPSK RB75-0 + RB50-0



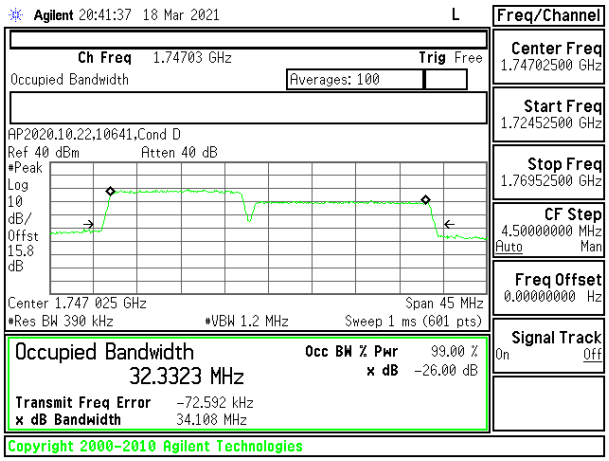
LTE B66C 10MHz + 20MHz QPSK RB50-0 + RB100-0



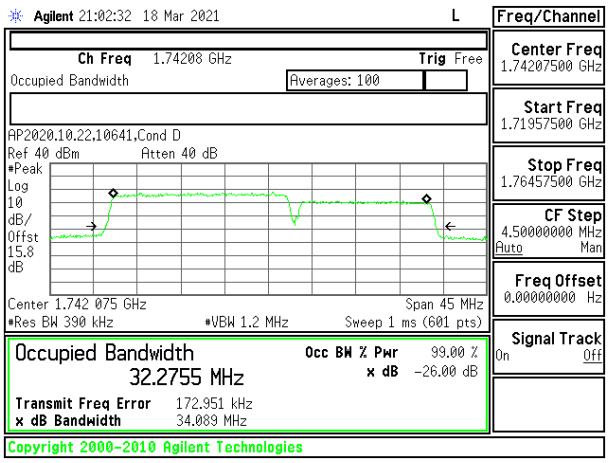
LTE B66C 20MHz + 10MHz QPSK RB100-0 + RB50-0



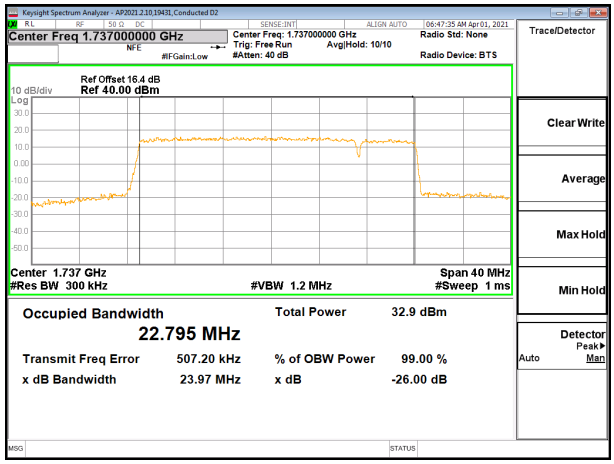
LTE B66C 15MHz + 15MHz QPSK RB75-0 + RB75-0



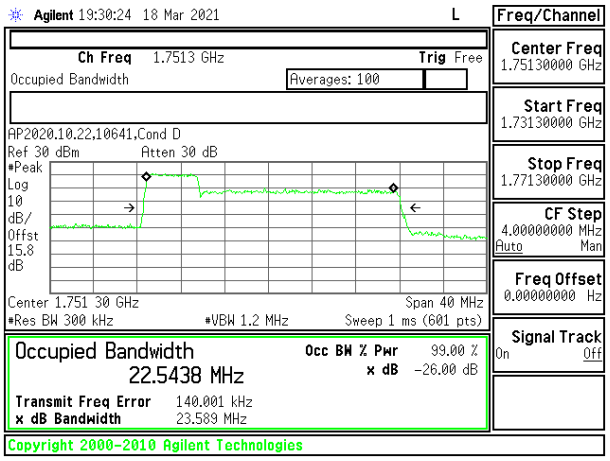
LTE B66C 15MHz + 20MHz QPSK RB75-0 + RB100-0



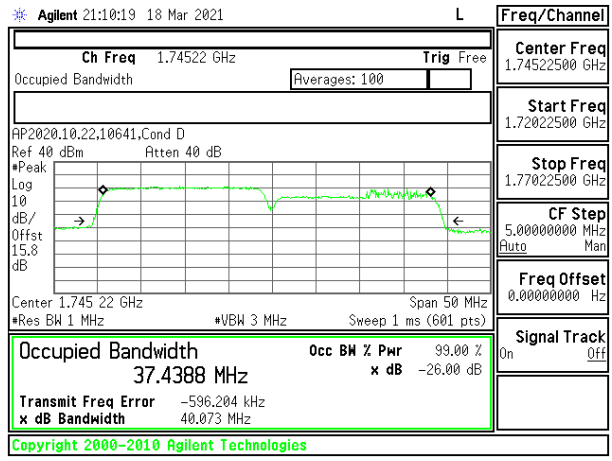
LTE B66C 20MHz + 15MHz QPSK RB100-0 + RB75-0



LTE B66C 20MHz + 5MHz QPSK RB100-0 + RB25-0



LTE B66C 5MHz + 20MHz QPSK RB25-0 + RB100-0



LTE B66C 20MHz + 20MHz QPSK RB100-0 + RB100-0

9.2. BAND EDGE, EMISSION MASK, AND ADJACENT CHANNEL POWER

TEST PROCEDURE

The transmitter output was connected to a R&S CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

- Set the spectrum analyzer span to include the block edge frequency.
- Set a marker to point the corresponding band edge frequency in each test case.
- Set display line at -13 dBm
- Set resolution bandwidth to at least 1% of emission bandwidth.

TEST PROCEDURE FOR FCC PART 27

(m)(6) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

TEST PROCEDURE FOR FCC PART 96

(3)Measurement procedure.
(i) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's authorized frequency channel, a resolution bandwidth of no less than one percent of the fundamental emission bandwidth may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full reference bandwidth (i.e.,1 MHz or 1 percent of emission bandwidth, as specified). The fundamental emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(ii) When measuring unwanted emissions to demonstrate compliance with the limits, the CBSD and End User Device nominal carrier frequency/channel shall be adjusted as close to the licensee's authorized frequency block edges, both upper and lower, as the design permits.

(iii) Compliance with emission limits shall be demonstrated using either average (RMS)-detected or peak-detected power measurement techniques.

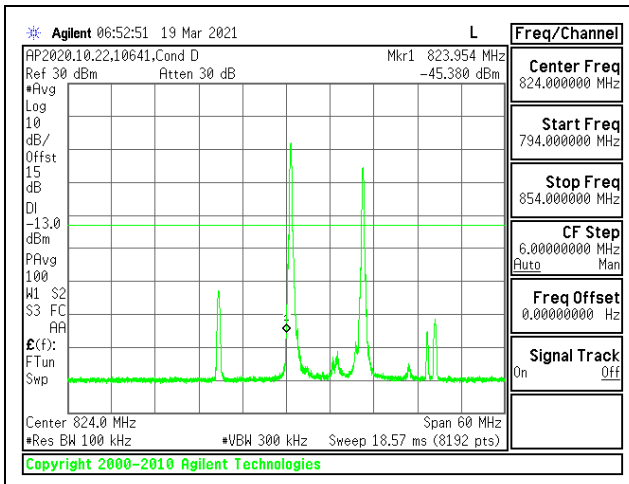
RESULTS

Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

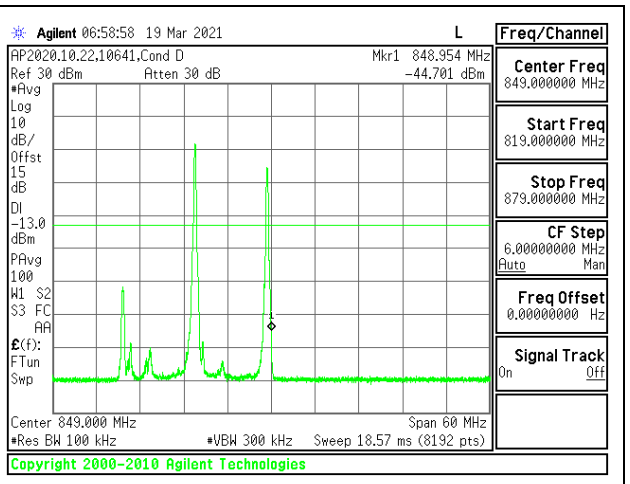
9.2.1. LTE BAND 5

LIMITS

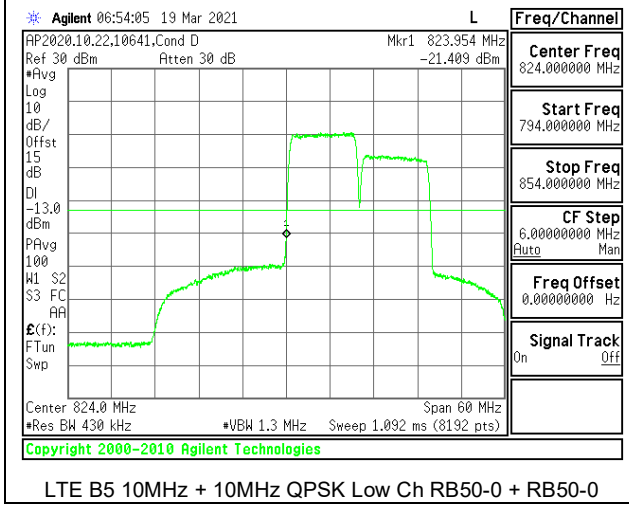
FCC: §22.917
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.



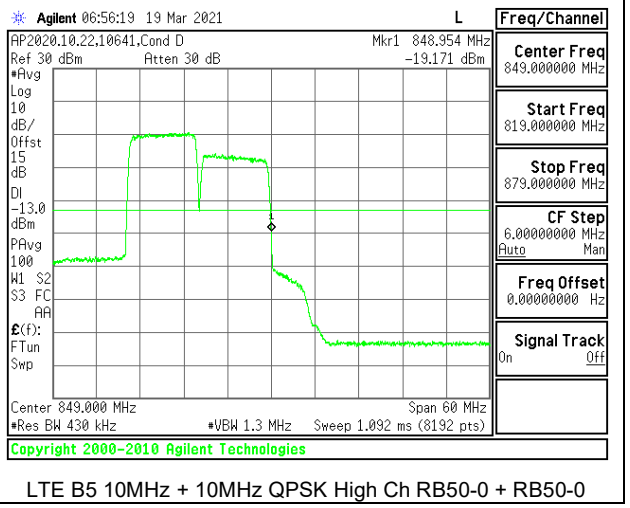
LTE B5 10MHz + 10MHz QPSK Low Ch RB1-0 + RB1-0



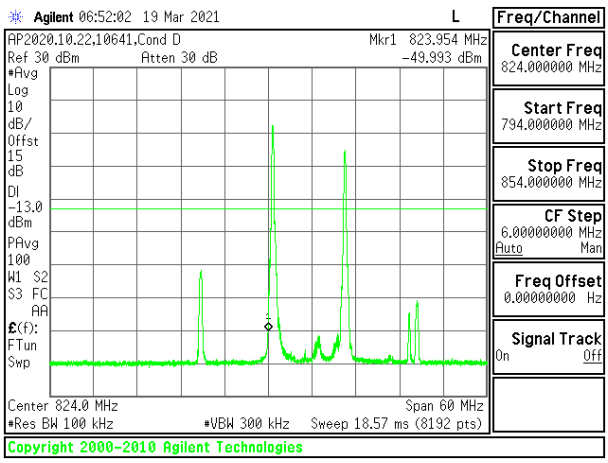
LTE B5 10MHz + 10MHz QPSK High Ch RB1-49 + RB1-49



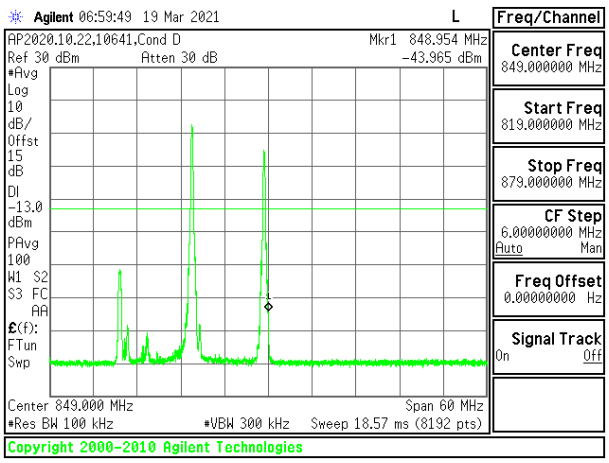
LTE B5 10MHz + 10MHz QPSK Low Ch RB50-0 + RB50-0



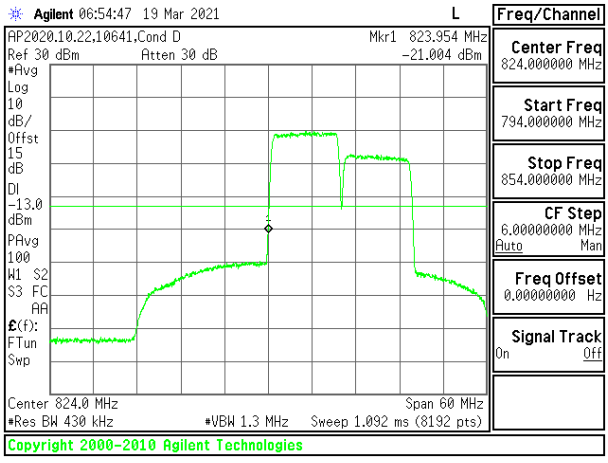
LTE B5 10MHz + 10MHz QPSK High Ch RB50-0 + RB50-0



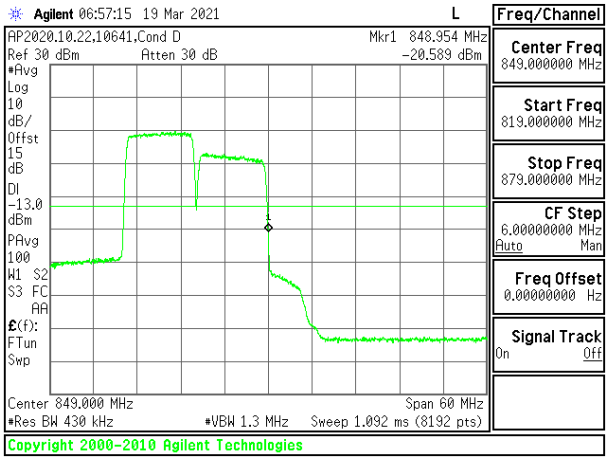
LTE B5 10MHz + 10MHz 16QAM Low Ch RB1-0 + RB1-0



LTE B5 10MHz + 10MHz 16QAM High Ch RB1-49 + RB1-49



LTE B5 10MHz + 10MHz 16QAM Low Ch RB50-0 + RB50-0

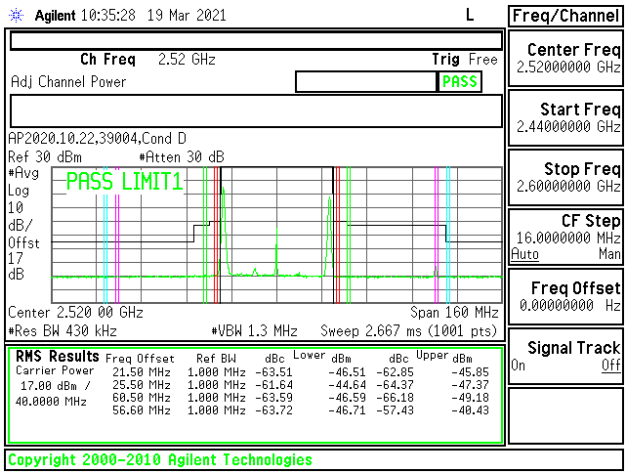


LTE B5 10MHz + 10MHz 16QAM High Ch RB50-0 + RB50-0

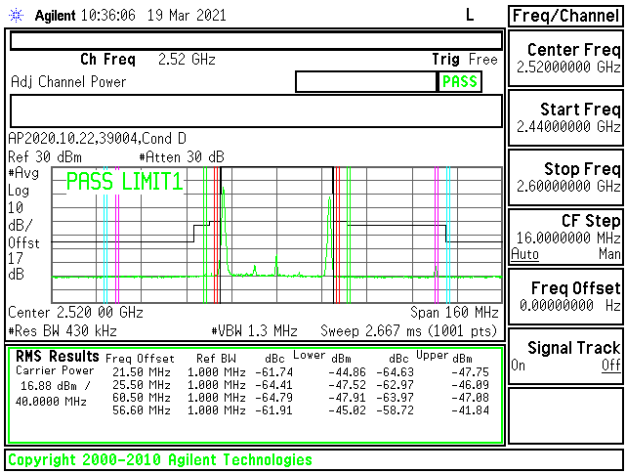
9.2.2. LTE BAND 7

LIMITS

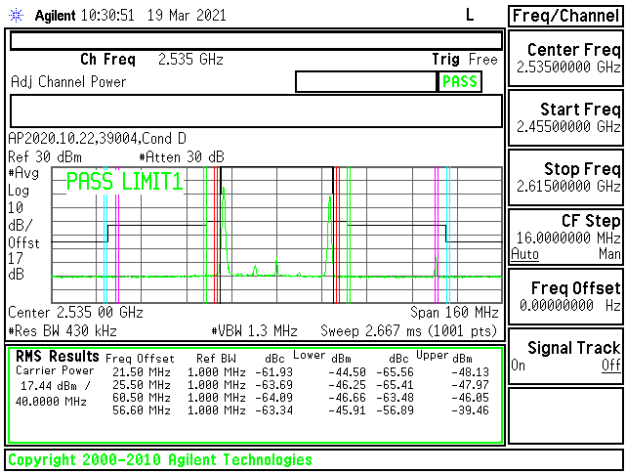
FCC: §27.53(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.



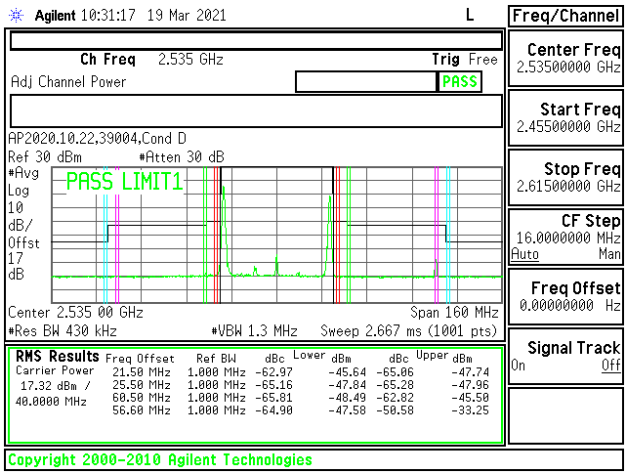
LTE B7 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



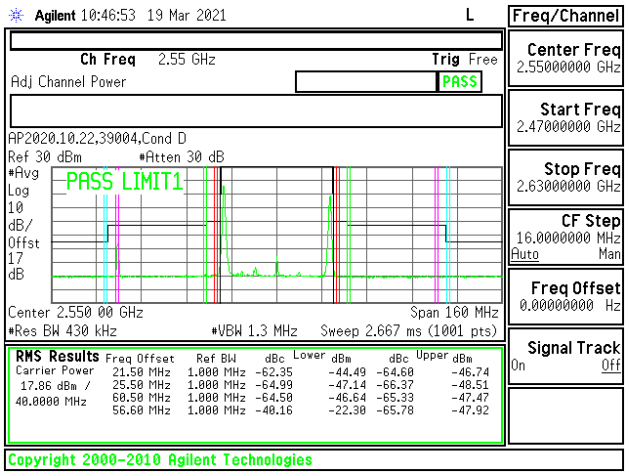
LTE B7 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



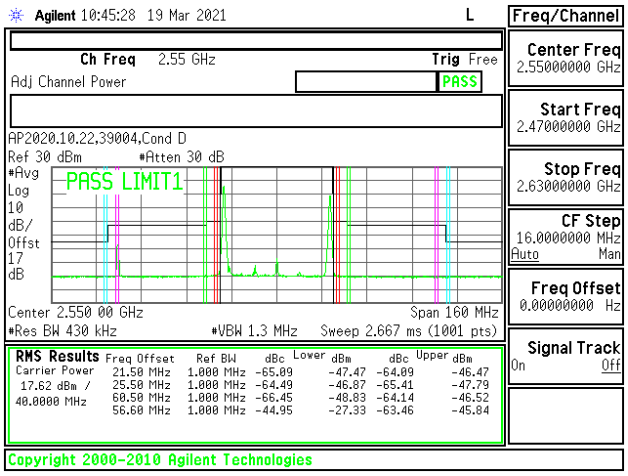
LTE B7 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



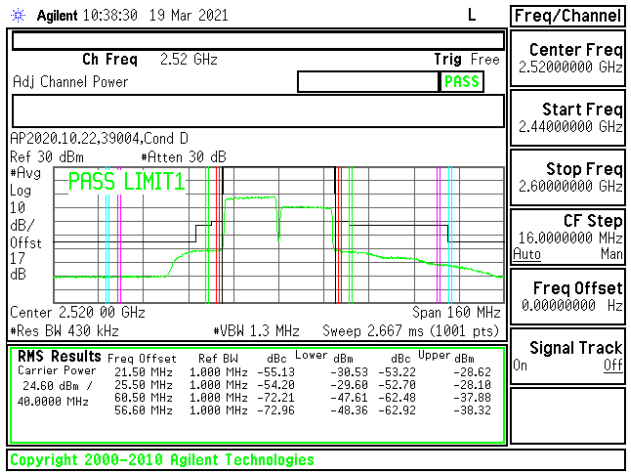
LTE B7 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



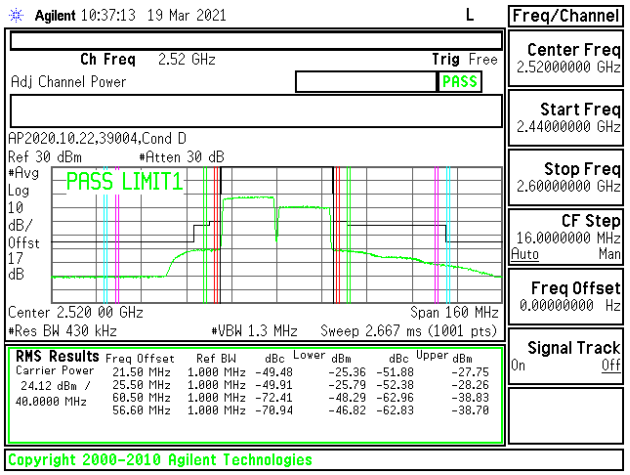
LTE B7 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



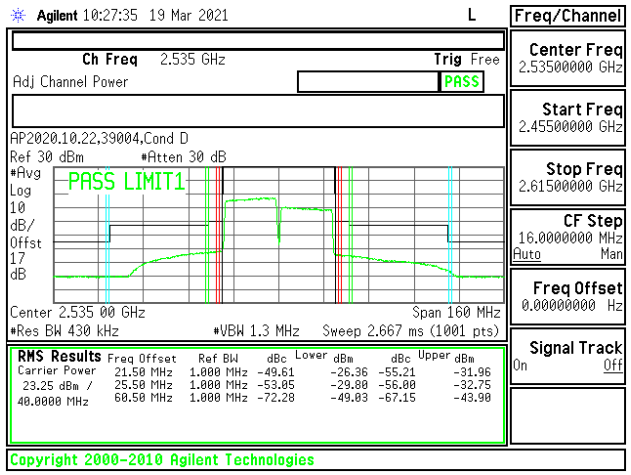
LTE B7 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



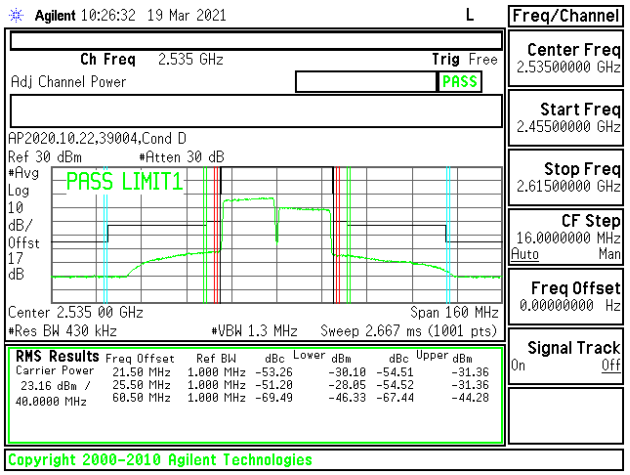
LTE B7 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



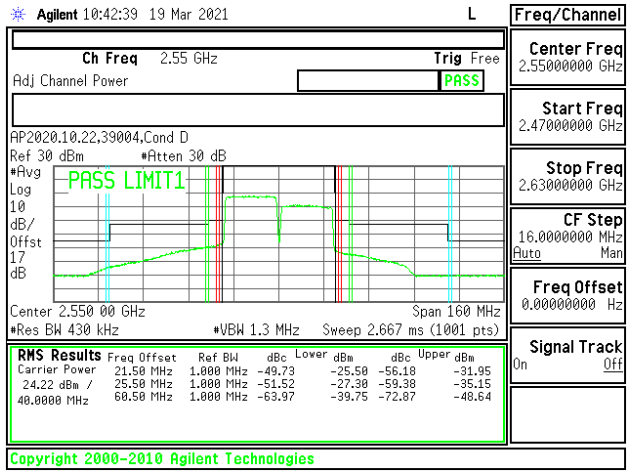
LTE B7 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



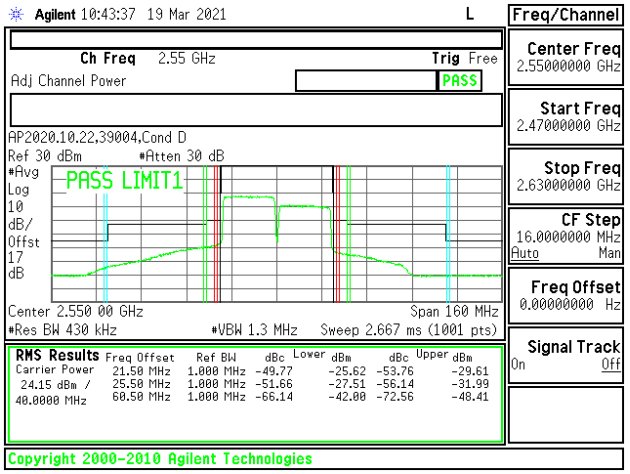
LTE B7 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



LTE B7 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0



LTE B7 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0

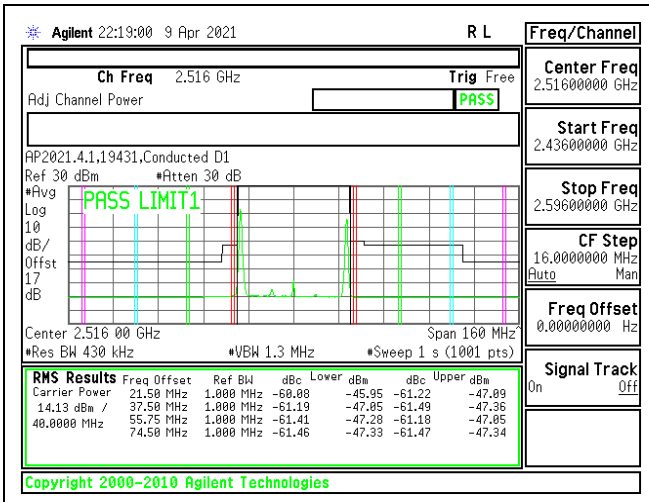


LTE B7 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

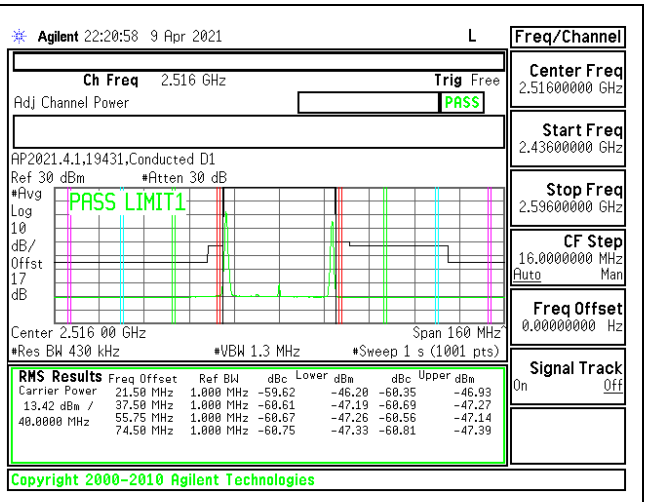
9.2.3. LTE BAND 41

LIMITS

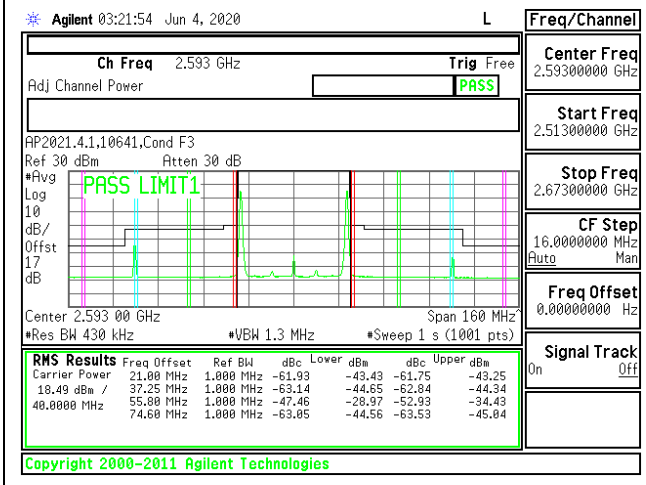
FCC: §27.53(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.



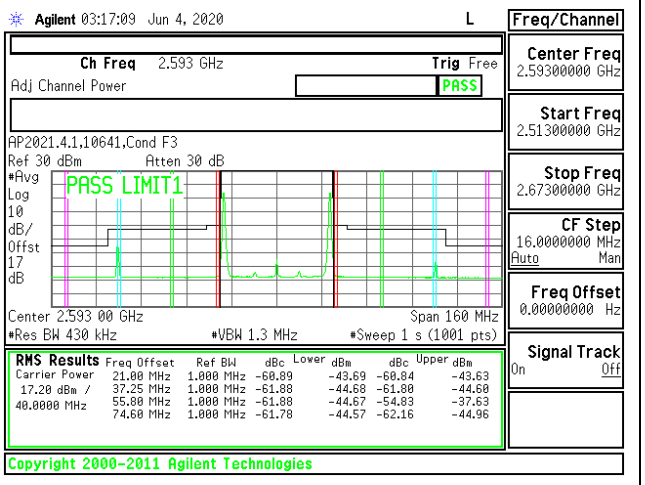
LTE B41 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



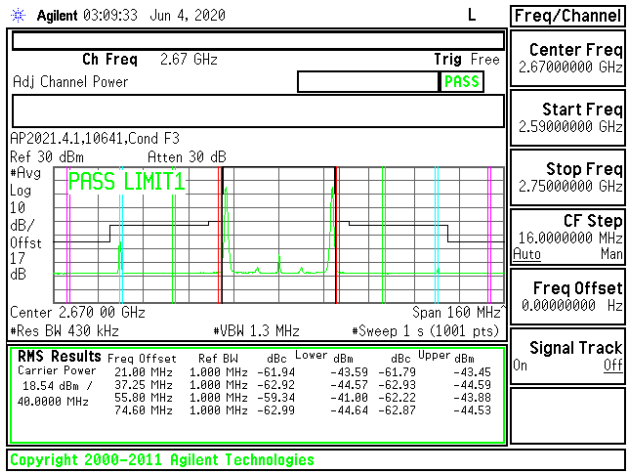
LTE B41 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



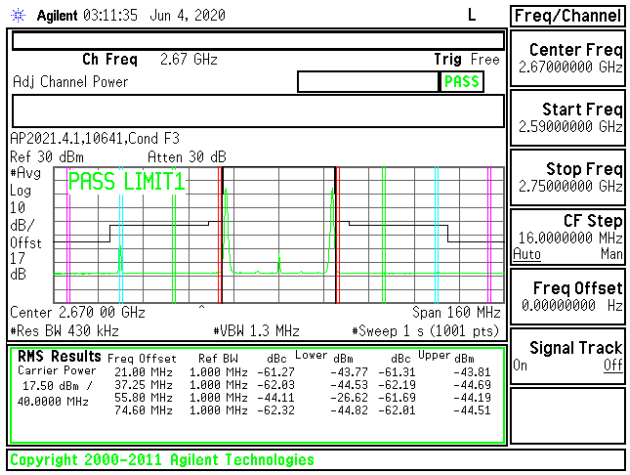
LTE B41 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



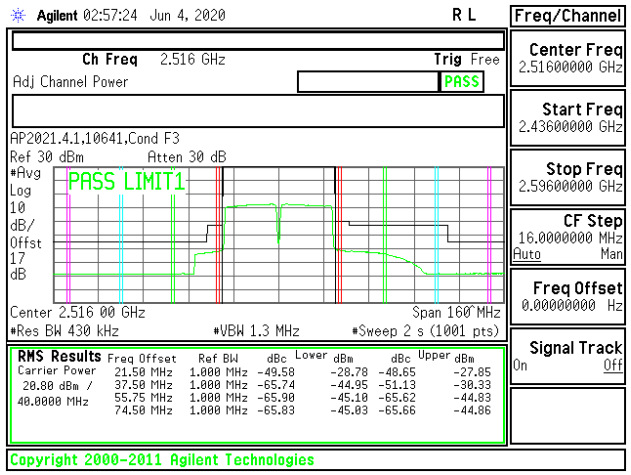
LTE B41 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



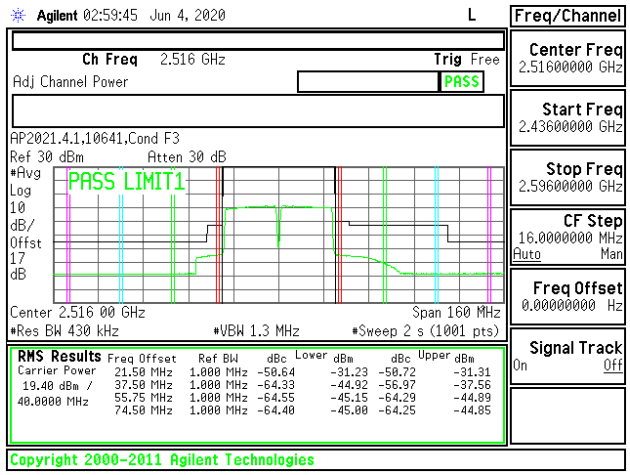
LTE B41 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



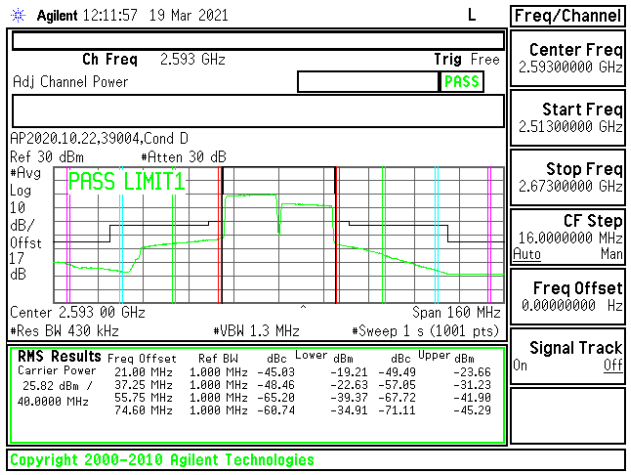
LTE B41 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



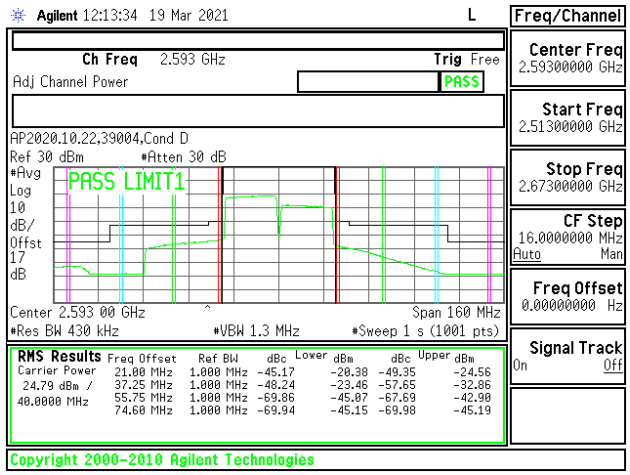
LTE B41 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



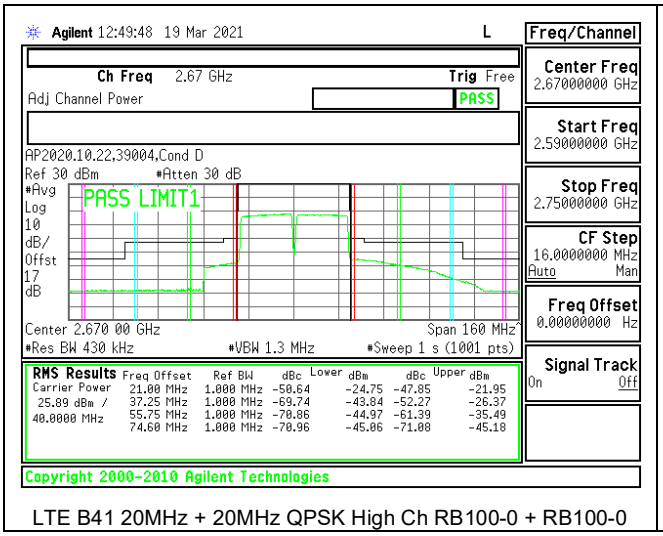
LTE B41 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



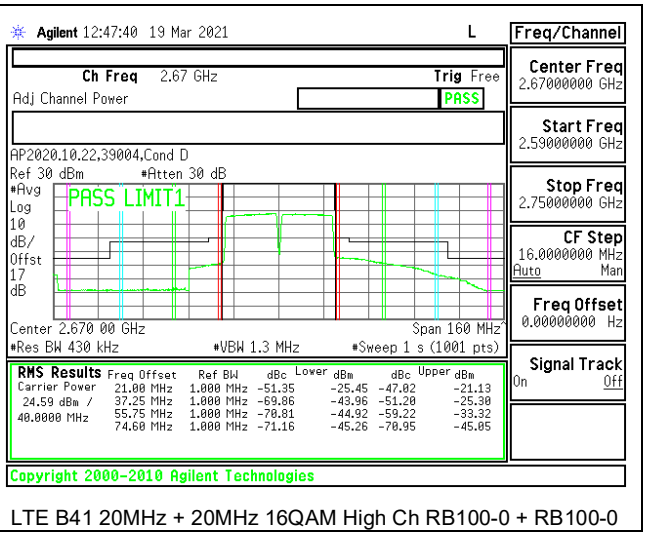
LTE B41 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

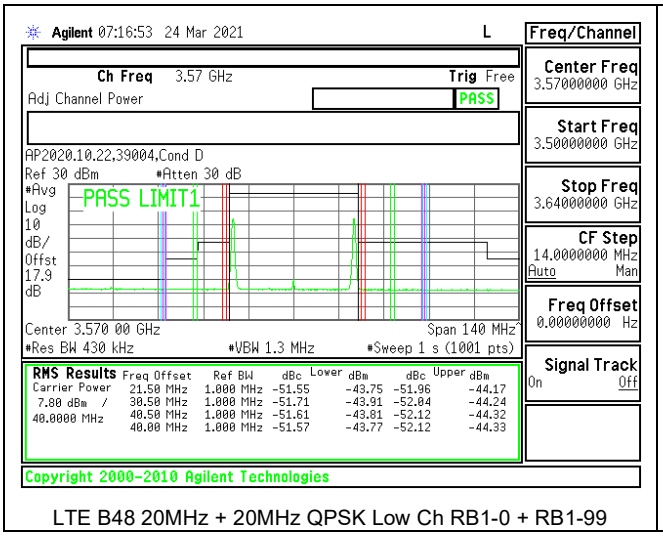
9.2.4. LTE BAND 48

LIMITS

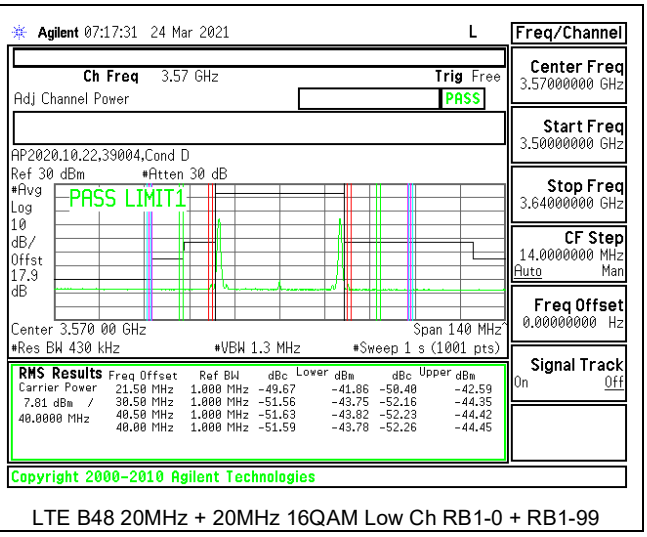
FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(1) General protection levels
(ii) Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by a CBSD to End User Devices, the conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed −13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed −25 dBm/MHz. Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

(2) Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.
licensees.

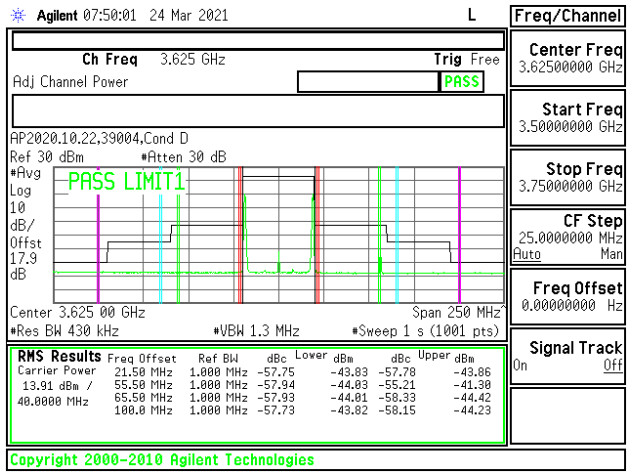
LTE BAND 48 EMISSION MASK



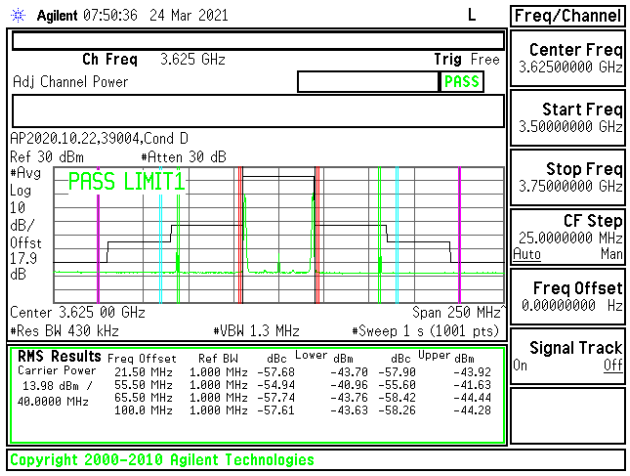
LTE B48 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



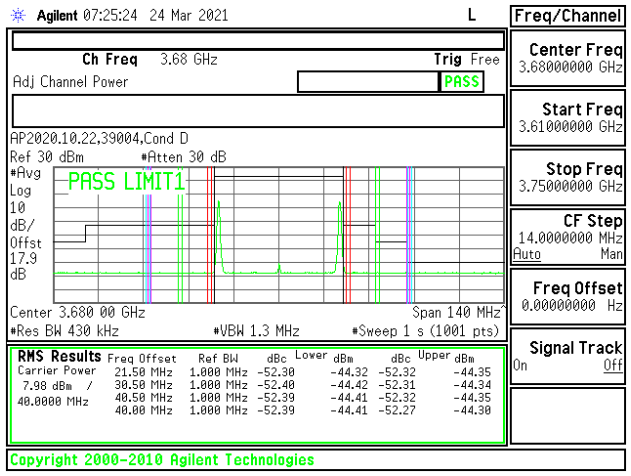
LTE B48 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



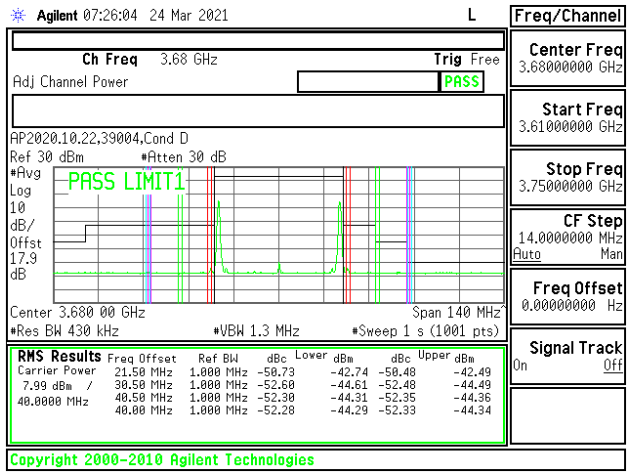
LTE B48 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



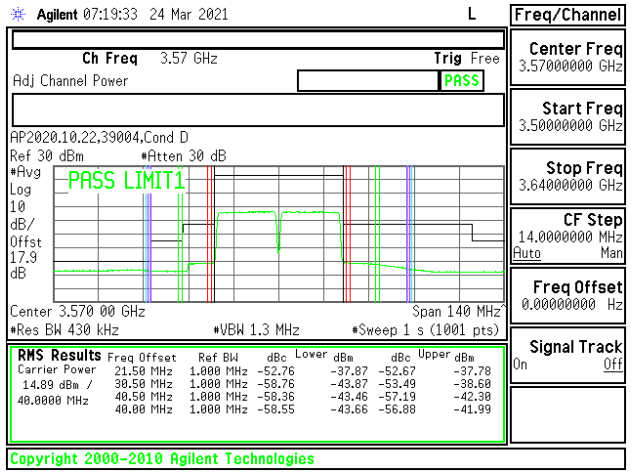
LTE B48 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



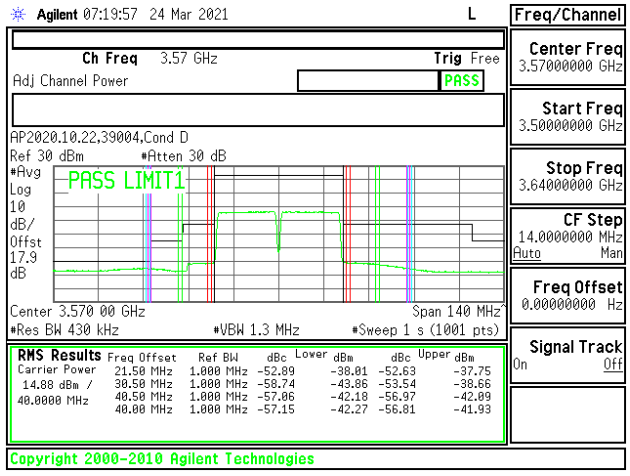
LTE B48 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



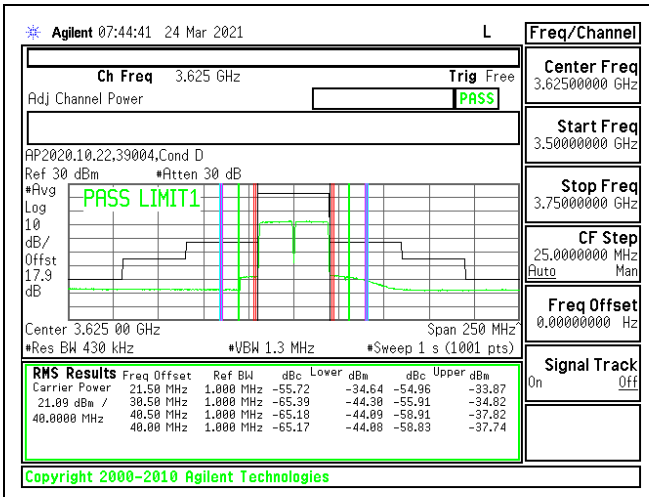
LTE B48 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



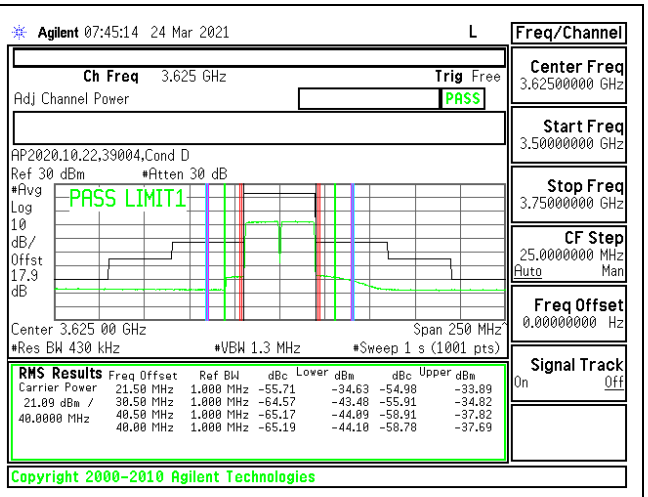
LTE B48 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



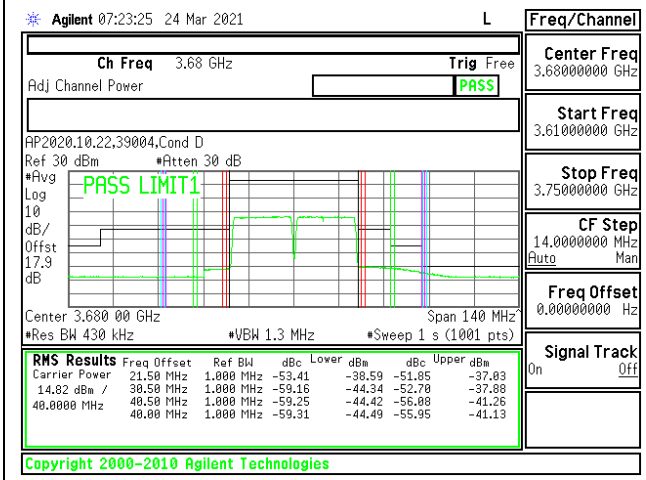
LTE B48 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



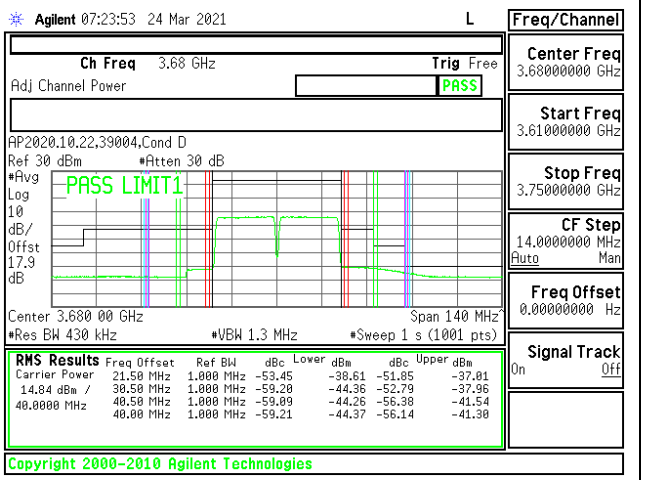
LTE B48 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



LTE B48 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0

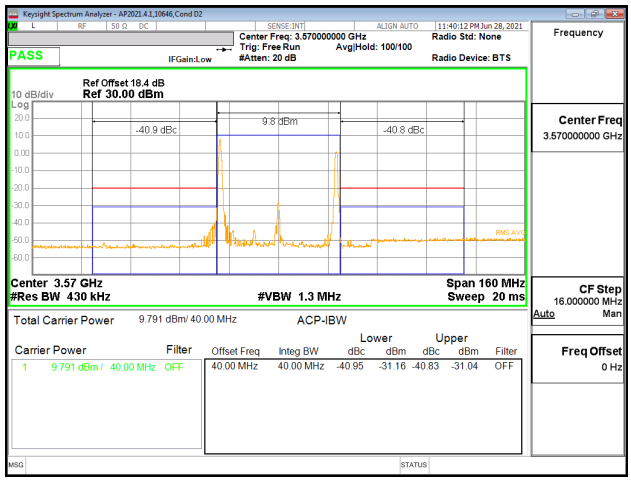


LTE B48 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0

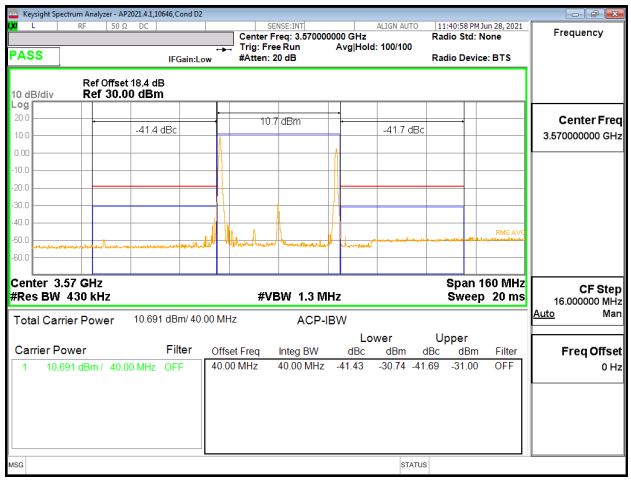


LTE B48 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

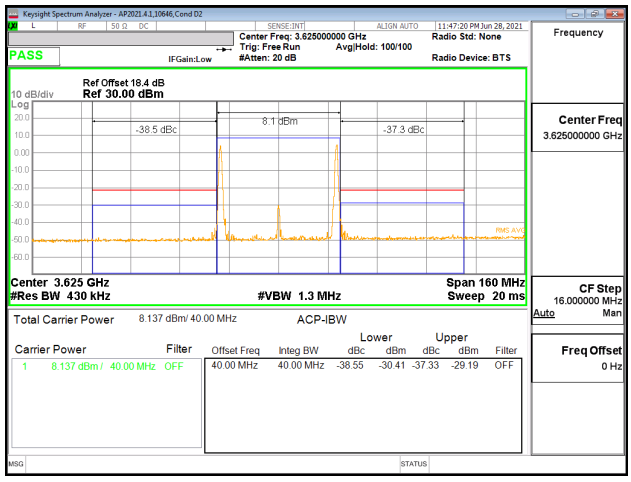
LTE BAND 48 ADJACENT CHANNEL POWER



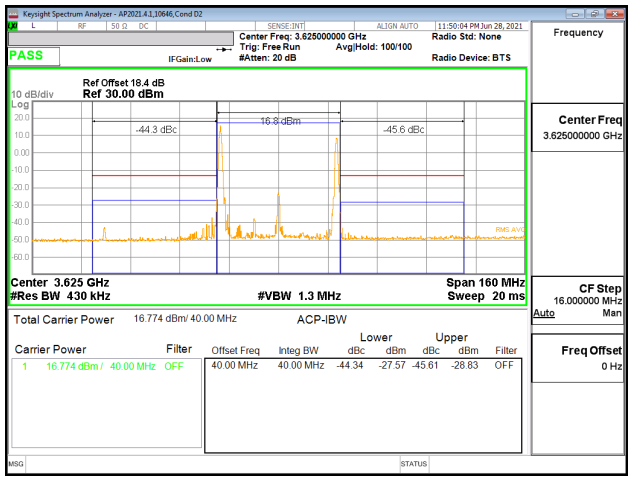
LTE B48 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



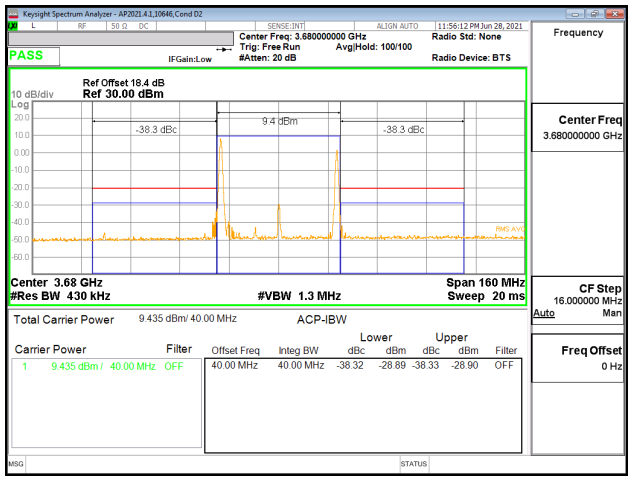
LTE B48 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



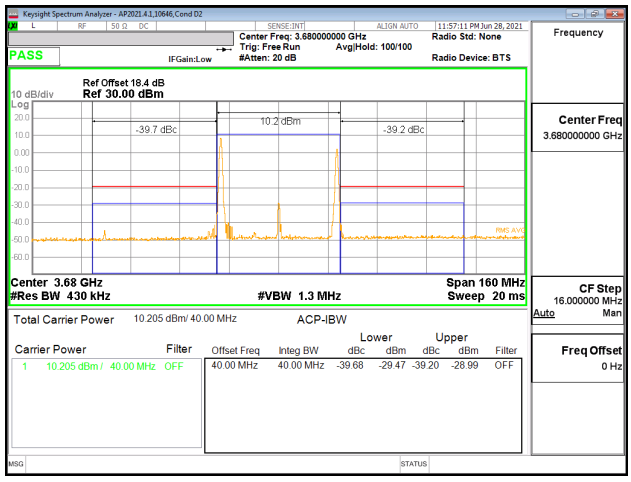
LTE B48 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



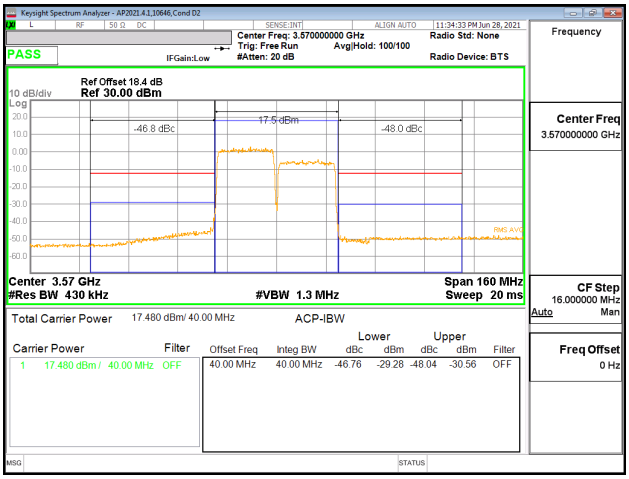
LTE B48 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



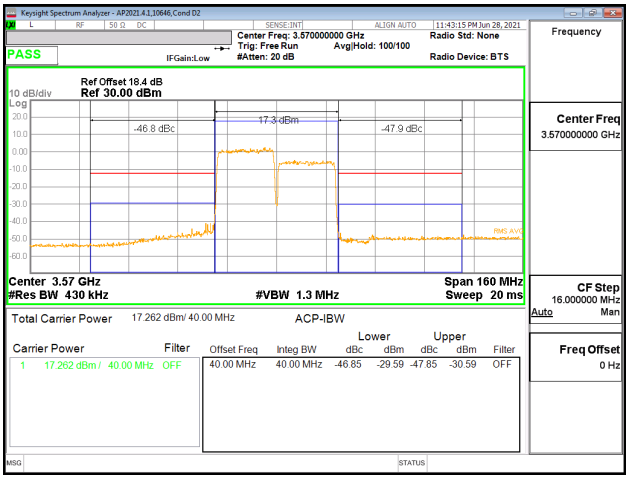
LTE B48 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



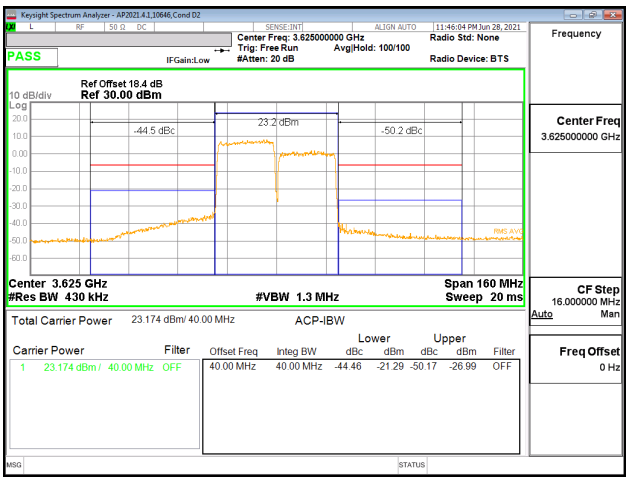
LTE B48 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



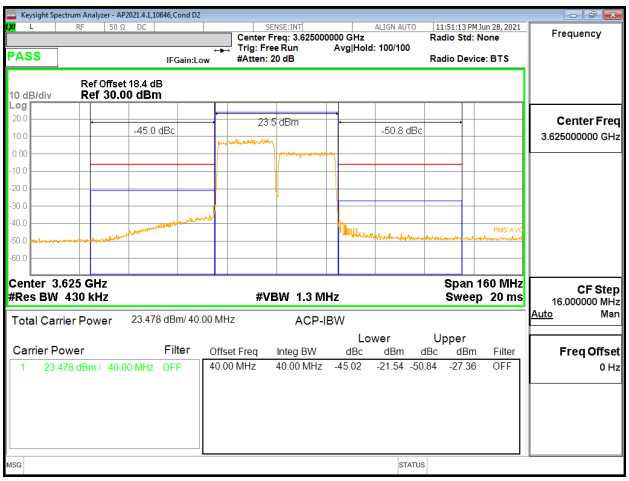
LTE B48 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



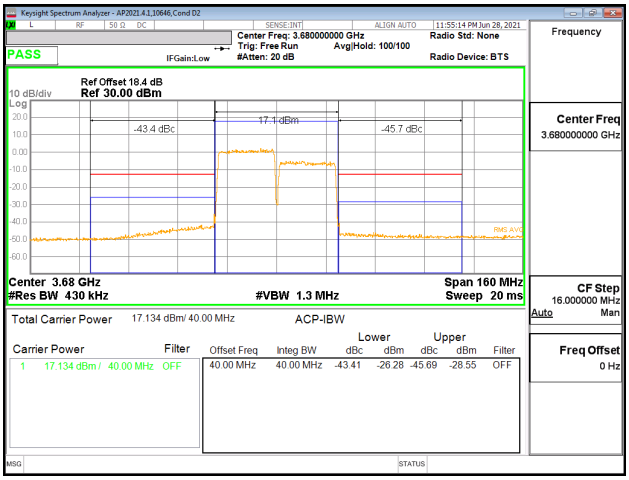
LTE B48 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



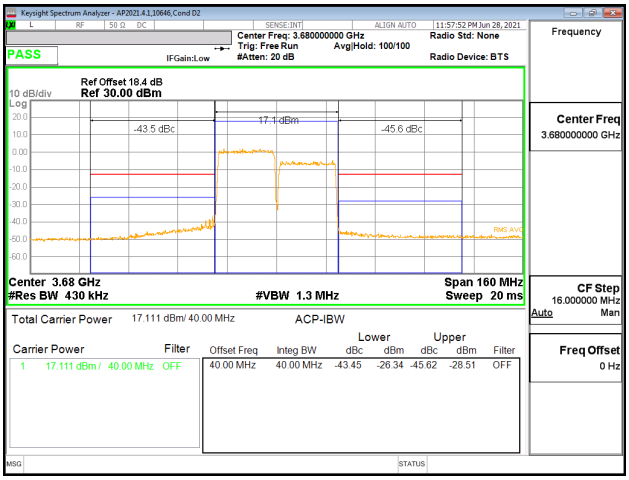
LTE B48 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



LTE B48 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0



LTE B48 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0

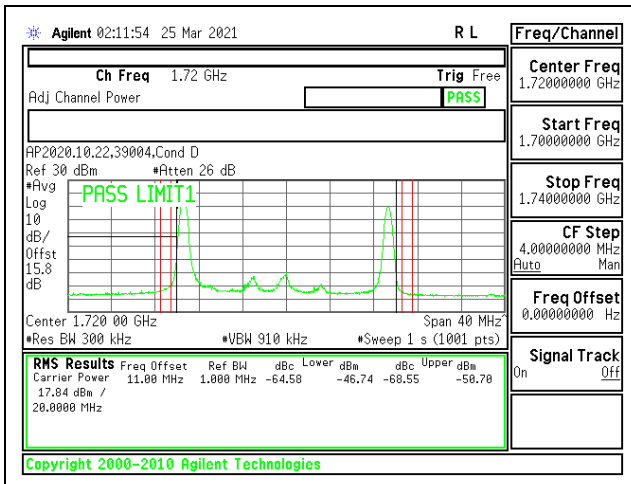


LTE B48 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

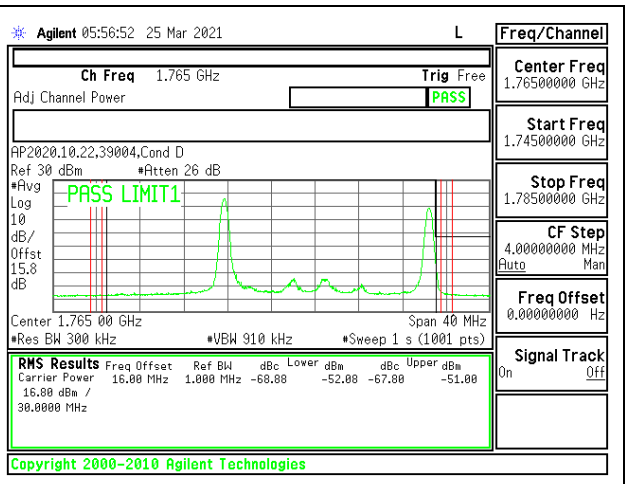
9.2.5. LTE BAND 66B

LIMITS

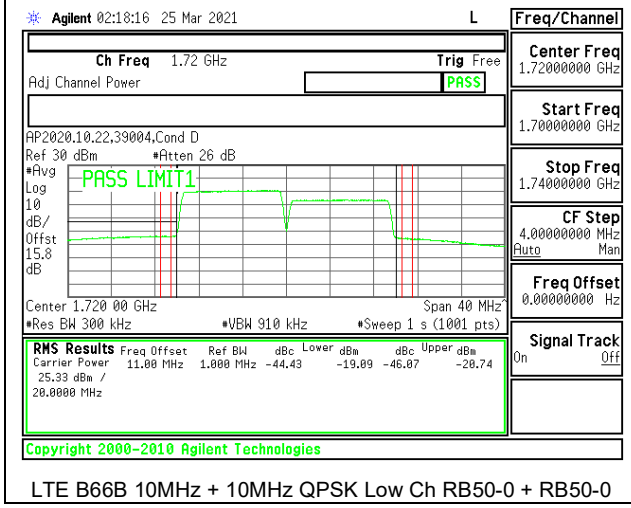
FCC: §27.53(h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.



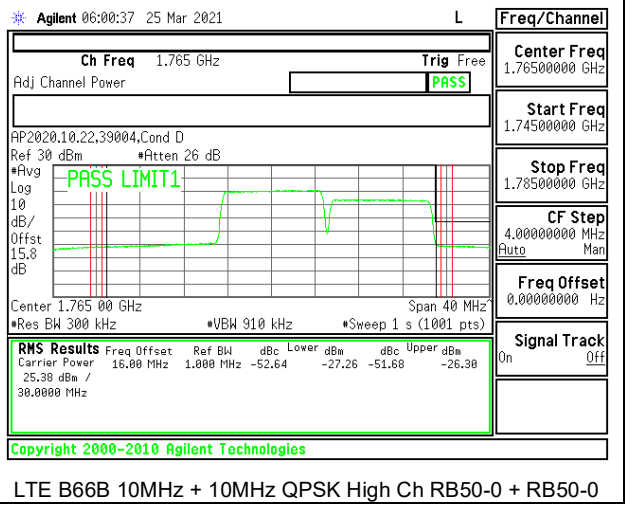
LTE B66B 10MHz + 10MHz QPSK Low Ch RB1-0 + RB1-49



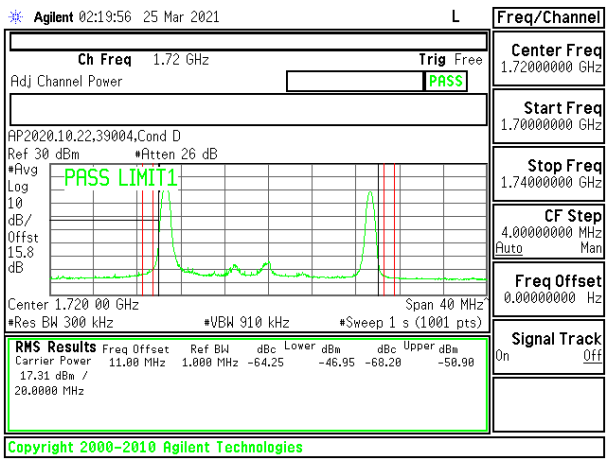
LTE B66B 10MHz + 10MHz QPSK High Ch RB1-0 + RB1-49



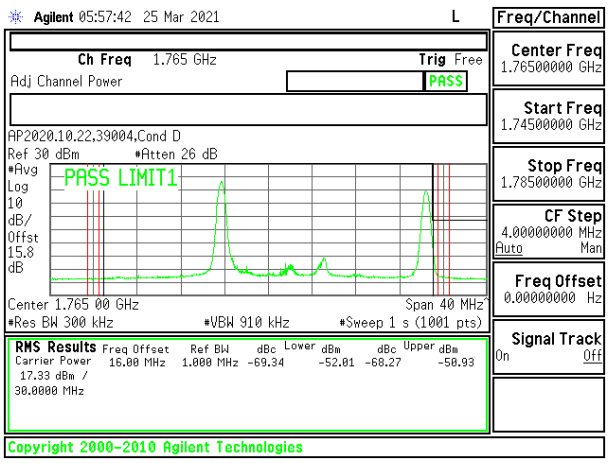
LTE B66B 10MHz + 10MHz QPSK Low Ch RB50-0 + RB50-0



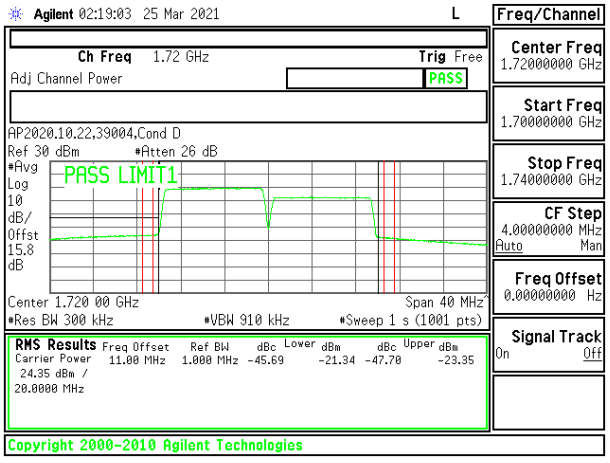
LTE B66B 10MHz + 10MHz QPSK High Ch RB50-0 + RB50-0



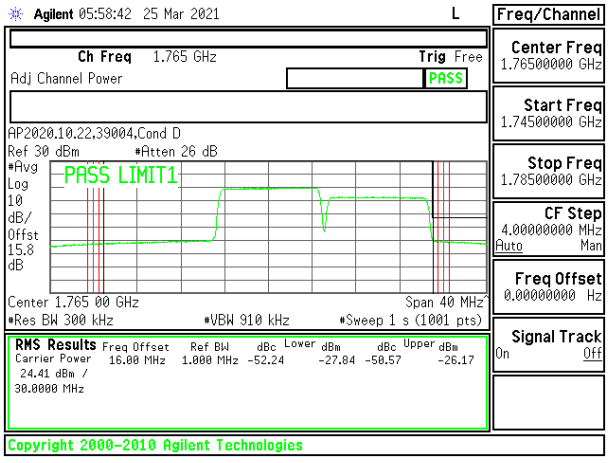
LTE B66B 10MHz + 10MHz 16QAM Low Ch RB1-0 + RB1-49



LTE B66B 10MHz + 10MHz 16QAM High Ch RB1-0 + RB1-49



LTE B66B 10MHz + 10MHz 16QAM Low Ch RB50-0 + RB50-0

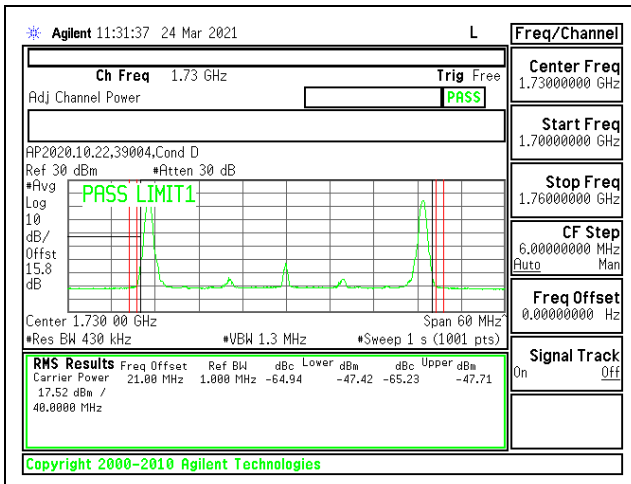


LTE B66B 10MHz + 10MHz 16QAM High Ch RB50-0 + RB50-0

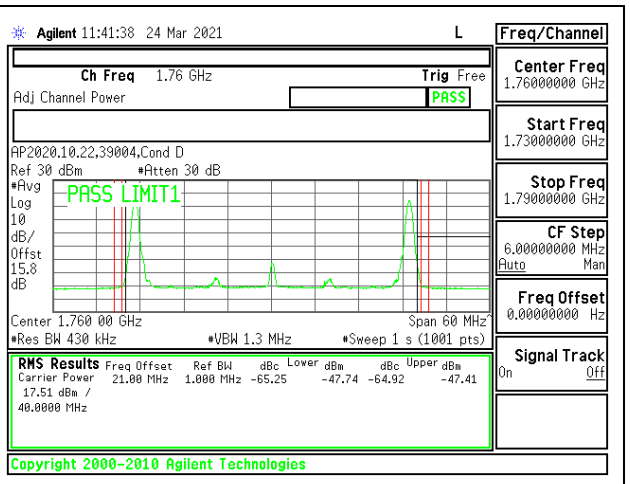
9.2.6. LTE BAND 66C

LIMITS

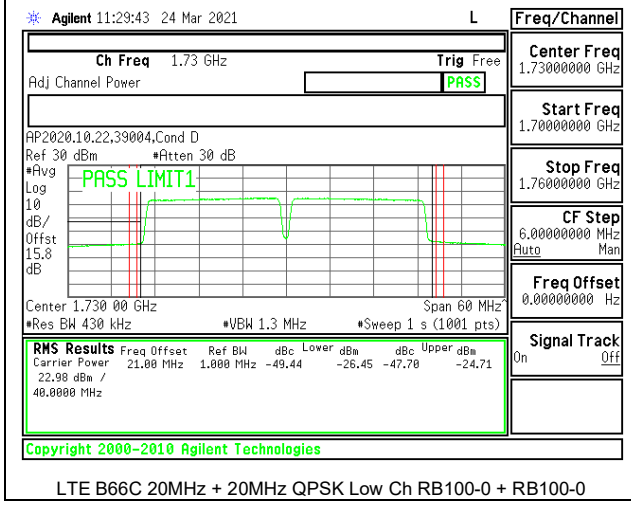
FCC: §27.53(h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.



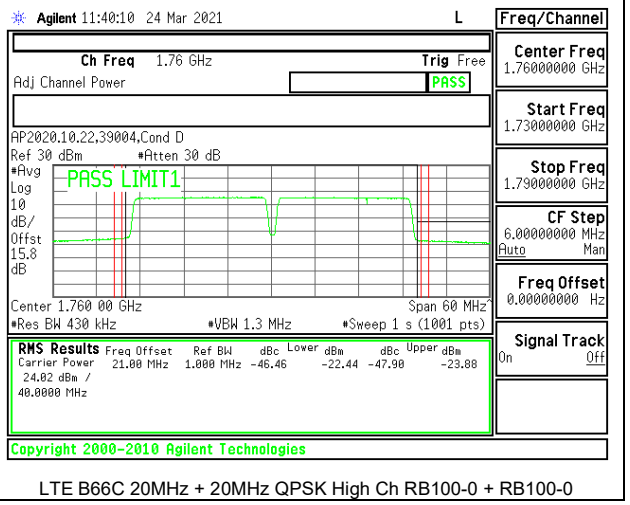
LTE B66C 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



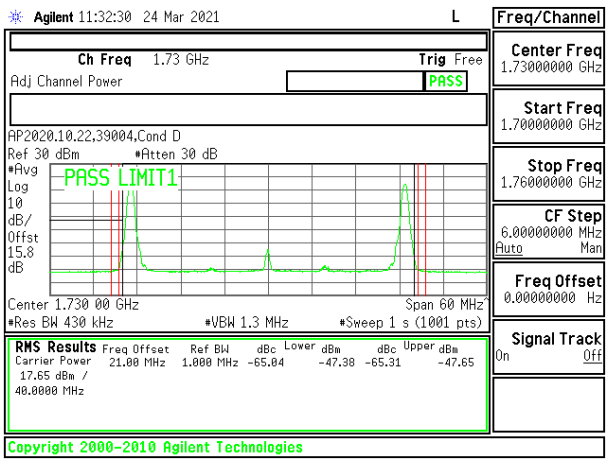
LTE B66C 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



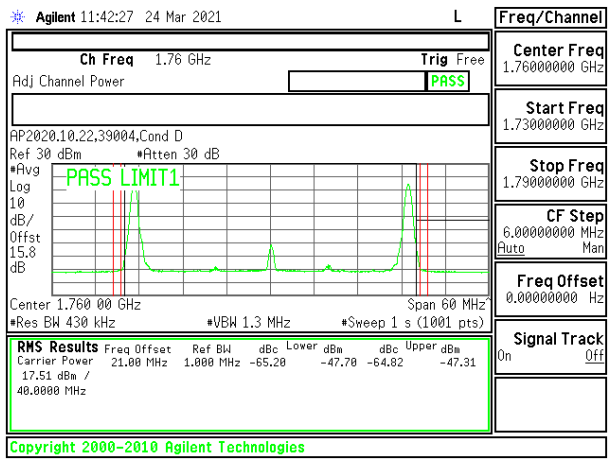
LTE B66C 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



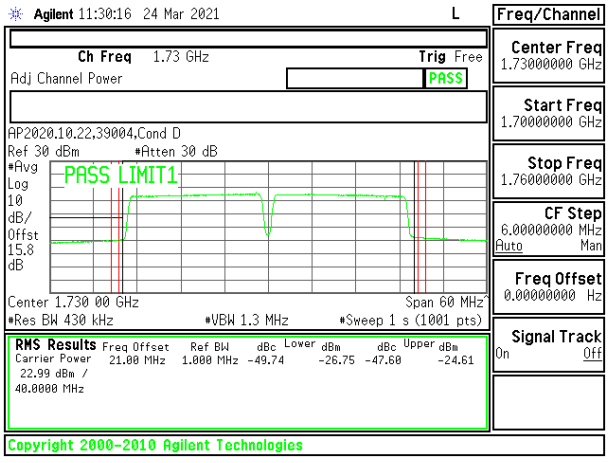
LTE B66C 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0



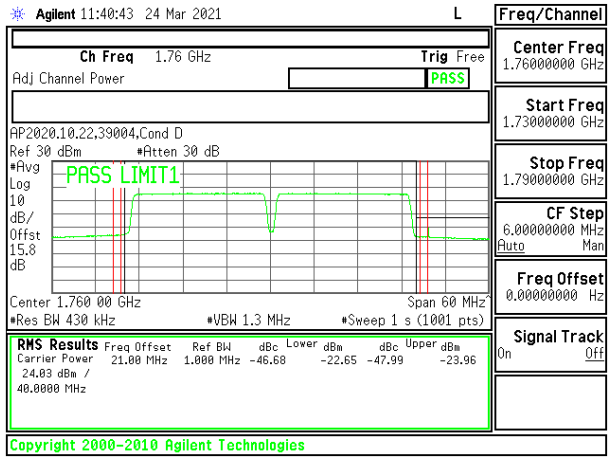
LTE B66C 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



LTE B66C 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



LTE B66C 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



LTE B66C 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

9.3. OUT OF BAND EMISSIONS

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm to band 5 and -25 dBm to band 7 and 41
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz. (NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

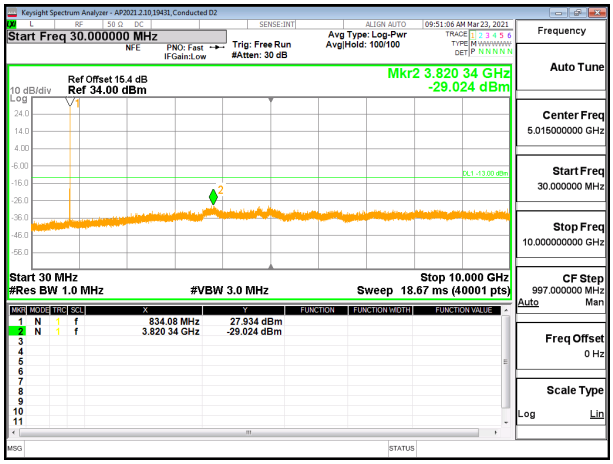
RESULTS

Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

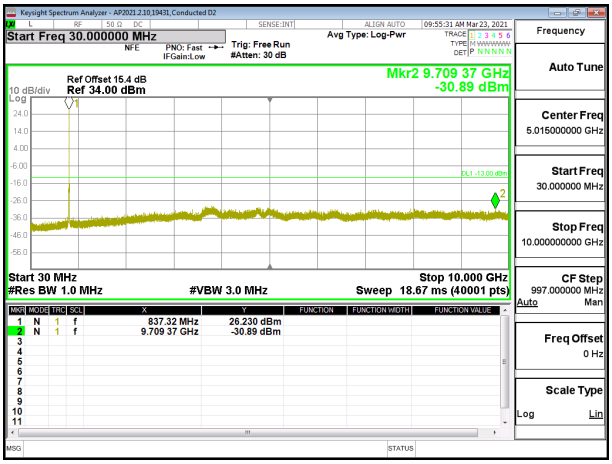
9.3.1. LTE BAND 5

LIMITS

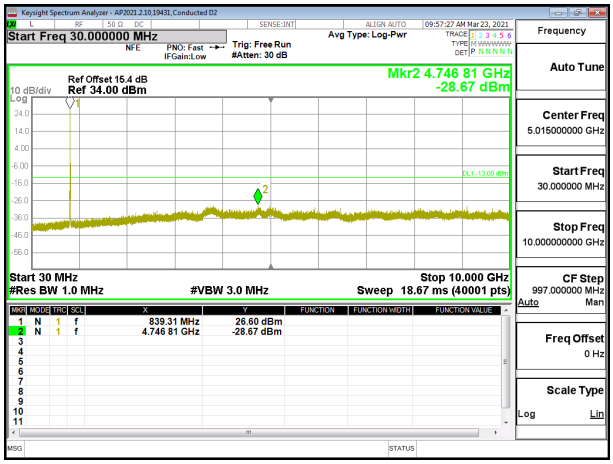
FCC: §22.917
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B5 10MHz + 10MHz QPSK Low Ch RB1-49 + RB1-0



LTE B5 10MHz + 10MHz QPSK Middle Ch RB1-49 + RB1-0

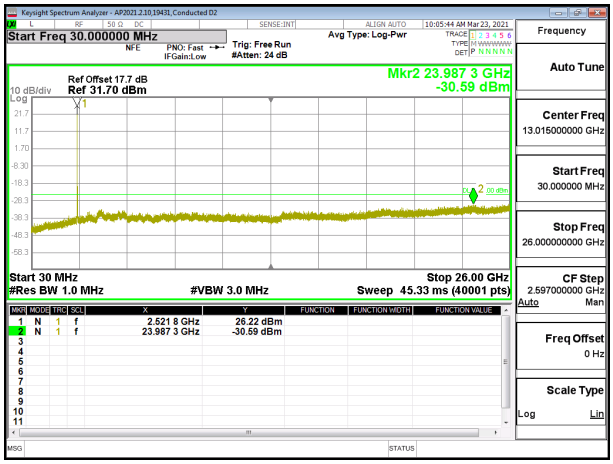


LTE B5 10MHz + 10MHz QPSK High Ch RB1-49 + RB1-0

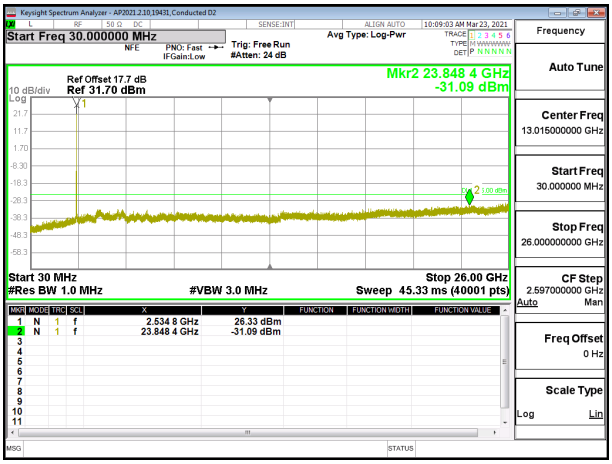
9.3.2. LTE BAND 7

LIMITS

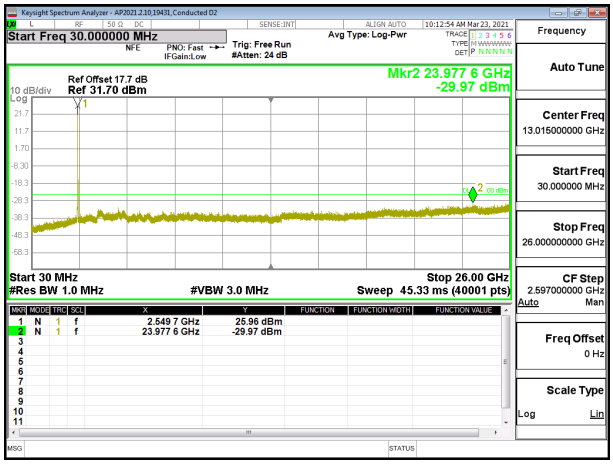
FCC: §27.53 (m)
The minimum permissible attenuation level of any spurious emissions is 55 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B7 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0



LTE B7 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0

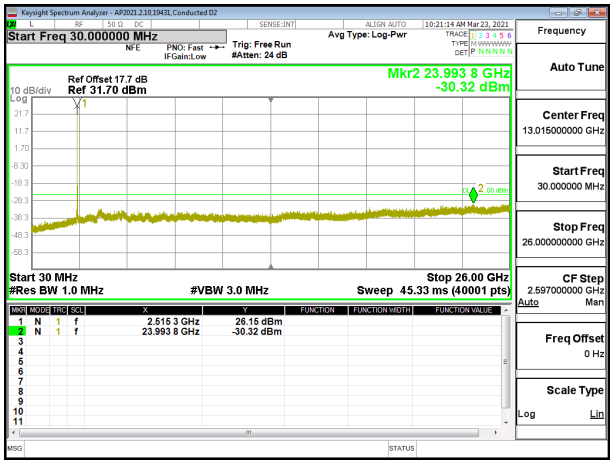


LTE B7 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

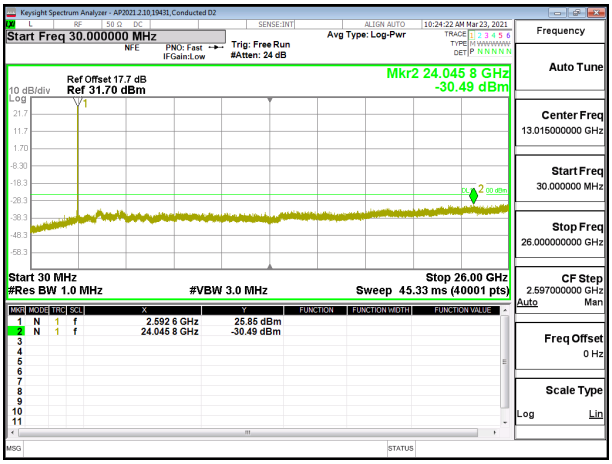
9.3.3. LTE BAND 41

LIMITS

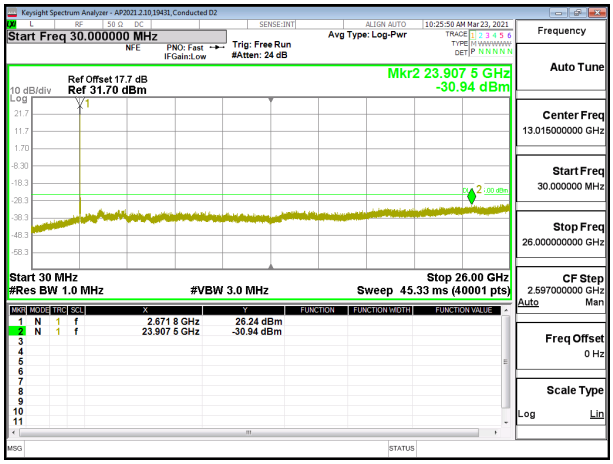
FCC: §27.53 (m)
The minimum permissible attenuation level of any spurious emissions is 55 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B41 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0



LTE B41 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0

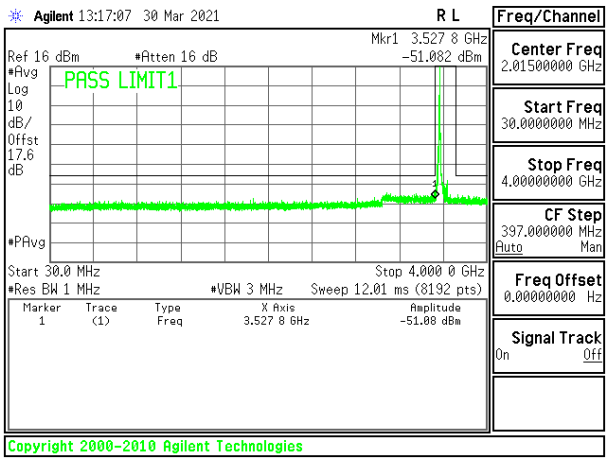


LTE B41 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

9.3.4. LTE BAND 48

LIMITS

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

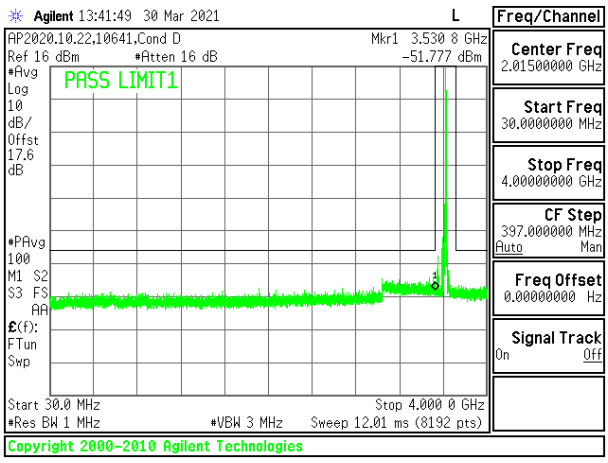


30MHz-4GHz

LTE B48 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0

4GHz-40GHz

LTE B48 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0

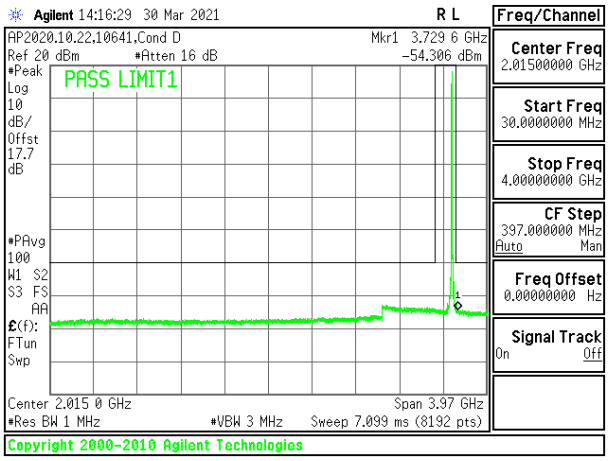


30MHz-4GHz

LTE B48 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0

4GHz-40GHz

LTE B48 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0



30MHz-4GHz

LTE B48 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

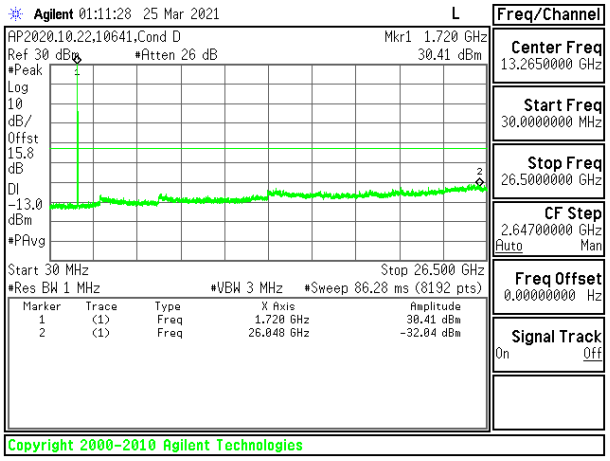
4GHz-40GHz

LTE B48 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

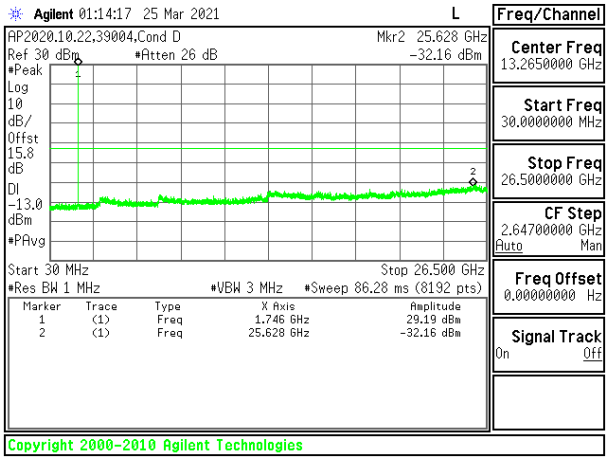
9.3.5. LTE BAND 66B

LIMITS

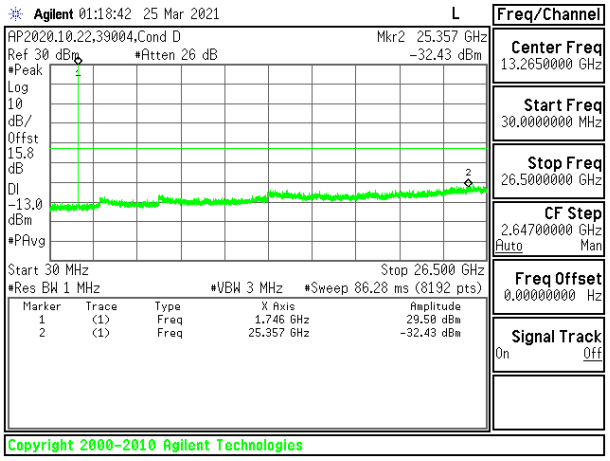
FCC: §27.53 (h)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B66B 10MHz + 10MHz QPSK Low Ch RB1-49 + RB1-0



LTE B66B 10MHz + 10MHz QPSK Middle Ch RB1-49 + RB1-0

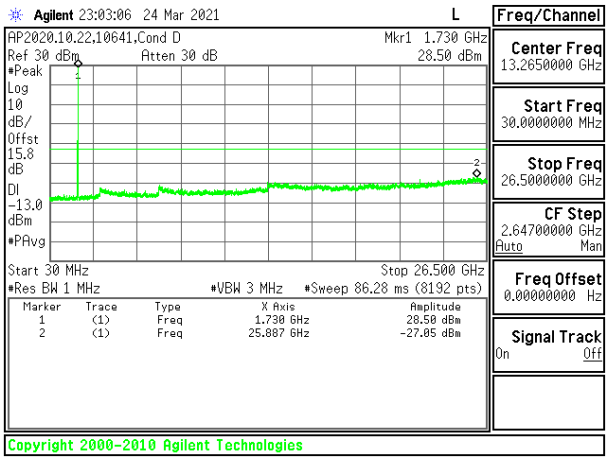


LTE B66B 10MHz + 10MHz QPSK High Ch RB1-49 + RB1-0

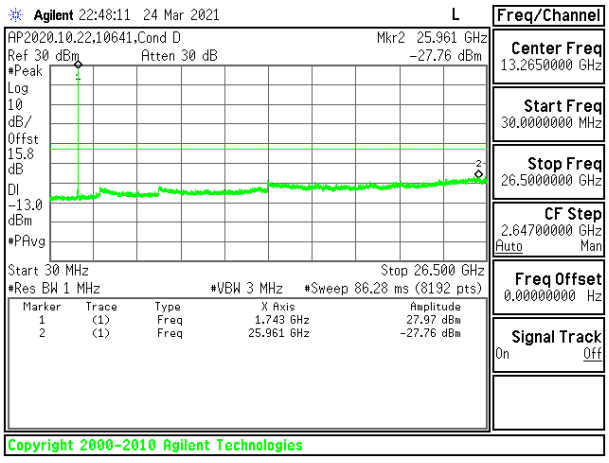
9.3.6. LTE BAND 66C

LIMITS

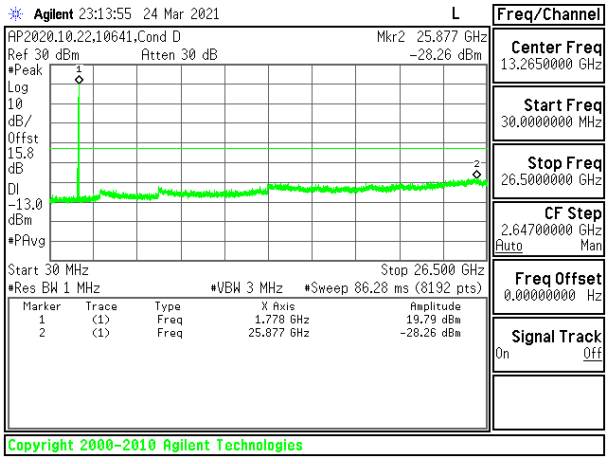
FCC: §27.53 (h)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B66C 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0



LTE B66C 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0



LTE B66C 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

9.4. FREQUENCY STABILITY

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = −30°C to +50°C
- Voltage = (85% - 115%)

  Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.
  End Voltage, 3.2VDC.

Frequency Stability vs Temperature:
The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

Frequency Stability vs Voltage:
The peak frequency error is recorded (worst-case).

RESULTS

See the following pages.

9.4.1. LTE BAND 5

LIMITS

FCC §22.355
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

Test Engineer ID:	38602	Test Date:	5/5/2021

QPSK (10MHz + 10MHz BANDWIDTH)

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	824.5105	848.6475		
Extreme (50C)		824.5105	848.6475	34.7	0.041
Extreme (40C)		824.5105	848.6475	31.5	0.038
Extreme (30C)		824.5105	848.6475	21.8	0.026
Extreme (10C)		824.5105	848.6475	13.8	0.016
Extreme (0C)		824.5105	848.6475	9.4	0.011
Extreme (-10C)		824.5105	848.6475	-8.8	-0.011
Extreme (-20C)		824.5105	848.6475	-20.1	-0.024
Extreme (-30C)		824.5105	848.6475	-19.8	-0.024
20C	15%	824.5105	848.6475	16.4	0.020
	-15%	824.5105	848.6475	10.1	0.012
	End Point	824.5105	848.6475	-18.7	-0.022

9.4.2. LTE BAND 7

LIMITS

FCC: §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	38602	Test Date:	5/5/2021

QPSK (20MHz + 20MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2500.9586	2569.1004		
Extreme (50C)		2500.9587	2569.1005	73.2	0.029
Extreme (40C)		2500.9587	2569.1005	67.7	0.027
Extreme (30C)		2500.9587	2569.1005	65.0	0.026
Extreme (10C)		2500.9586	2569.1004	43.1	0.017
Extreme (0C)		2500.9586	2569.1004	20.7	0.008
Extreme (-10C)		2500.9586	2569.1004	-17.1	-0.007
Extreme (-20C)		2500.9586	2569.1004	-25.2	-0.010
Extreme (-30C)		2500.9586	2569.1004	-33.9	-0.013
20C	15%	2500.9586	2569.1004	39.4	0.016
	-15%	2500.9586	2569.1004	33.3	0.013
	End Point	2500.9586	2569.1004	41.7	0.016

9.4.3. LTE BAND 41

LIMITS

FCC: §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	12981	Test Date:	5/6/2021

QPSK (20MHz + 20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2496.6945	2689.3856		
Extreme (50C)		2496.6946	2689.3857	73.2	0.028
Extreme (40C)		2496.6946	2689.3857	67.7	0.026
Extreme (30C)		2496.6946	2689.3857	65.0	0.025
Extreme (10C)		2496.6945	2689.3856	43.1	0.017
Extreme (0C)		2496.6945	2689.3856	20.7	0.008
Extreme (-10C)		2496.6945	2689.3856	-17.1	-0.007
Extreme (-20C)		2496.6945	2689.3856	-25.2	-0.010
Extreme (-30C)		2496.6945	2689.3856	-33.9	-0.013
20C	15%	2496.6945	2689.3856	39.4	0.015
	-15%	2496.6945	2689.3856	33.3	0.013
	End Point	2496.6945	2689.3856	41.7	0.016

9.4.4. LTE BAND 48

Test Engineer ID:	38602	Test Date:	5/6/2021

QPSK (20MHz + 20MHz BANDWIDTH)

Limit		3550	3700	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	3550.9769	3699.3040		
Extreme (50C)		3550.9770	3699.3041	54.6	0.015
Extreme (40C)		3550.9770	3699.3041	51.7	0.014
Extreme (30C)		3550.9769	3699.3040	33.8	0.009
Extreme (10C)		3550.9769	3699.3040	-25.5	-0.007
Extreme (0C)		3550.9768	3699.3039	-50.3	-0.014
Extreme (-10C)		3550.9768	3699.3039	-57.5	-0.016
Extreme (-20C)		3550.9768	3699.3039	-56.7	-0.016
Extreme (-30C)		3550.9768	3699.3039	-54.1	-0.015
20C	15%	3550.9769	3699.3040	26.8	0.007
	-15%	3550.9769	3699.3040	18.7	0.005
	End Point	3550.9769	3699.3040	21.3	0.006

9.4.5. LTE BAND 66B

LIMITS

FCC: §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	38602	Test Date:	5/19/2021

QPSK (10MHz + 10MHz BANDWIDTH)

Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1710.6337	1779.4968		
Extreme (50C)		1710.6337	1779.4968	21.1	0.012
Extreme (40C)		1710.6337	1779.4968	20.7	0.012
Extreme (30C)		1710.6337	1779.4968	14.6	0.008
Extreme (10C)		1710.6337	1779.4968	-10.9	-0.006
Extreme (0C)		1710.6337	1779.4968	-5.1	-0.003
Extreme (-10C)		1710.6337	1779.4968	-12.7	-0.007
Extreme (-20C)		1710.6337	1779.4968	-23.5	-0.013
Extreme (-30C)		1710.6337	1779.4968	-22.2	-0.013
20C	15%	1710.6337	1779.4968	7.9	0.005
	-15%	1710.6337	1779.4968	-3.8	-0.002
	End Point	1710.6337	1779.4968	-8.6	-0.005

9.4.6. LTE BAND 66C

LIMITS

FCC: §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	38602	Test Date:	5/19/2021

QPSK (20MHz + 20MHz BANDWIDTH)

Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1711.0101	1779.7821		
Extreme (50C)		1711.0101	1779.7821	35.6	0.020
Extreme (40C)		1711.0101	1779.7821	37.7	0.022
Extreme (30C)		1711.0101	1779.7821	28.4	0.016
Extreme (10C)		1711.0101	1779.7821	11.9	0.007
Extreme (0C)		1711.0101	1779.7821	-11.2	-0.006
Extreme (-10C)		1711.0101	1779.7821	-35.6	-0.020
Extreme (-20C)		1711.0101	1779.7821	-42.1	-0.024
Extreme (-30C)		1711.0101	1779.7821	-46.7	-0.027
20C	15%	1711.0101	1779.7821	20.9	0.012
	-15%	1711.0101	1779.7821	-8.5	-0.005
	End Point	1711.0101	1779.7821	-19.6	-0.011

9.5. PEAK-TO-AVERAGE POWER RATIO

LIMIT

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

RESULT

Test was performed on Antenna 1; full resource block (FRB) for each bandwidth was used to measure as the worst case. The results from all CCDF measurements are passed with 13dB peak-to-average ratio criteria.

9.5.1. LTE BAND 5

Test Engineer ID:	19431	Test Date:	3/16/2021

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 5	3MHz / 5MHz	834.0	837.9	QPSK	32.16	25.93	6.23
				16QAM	32.22	25.58	6.64
	5 MHz / 3MHz	835.0	838.9	QPSK	32.17	25.93	6.24
				16QAM	32.25	25.58	6.67
	5MHz / 10MHz	831.6	838.8	QPSK	29.41	23.21	6.20
				16QAM	29.47	22.24	7.23
	10MHz / 5MHz	834.3	841.5	QPSK	29.50	23.18	6.32
				16QAM	29.52	22.21	7.31
	10MHz / 10MHz	831.5	841.4	QPSK	31.98	23.23	8.75
				16QAM	29.61	22.19	7.42
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.2. LTE BAND 7

Test Engineer ID:	19431	Test Date:	3/16/2021

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 7	10MHz / 20MHz	2525.6	2540.0	QPSK	30.05	23.65	6.40
				16QAM	30.34	22.65	7.69
	20MHz / 10MHz	2530.1	2544.5	QPSK	29.82	23.60	6.22
				16QAM	29.88	22.62	7.26
	15 MHz / 15MHz	2527.5	2542.5	QPSK	29.90	23.62	6.28
				16QAM	30.02	22.65	7.37
	15MHz / 20MHz	2525.3	2542.4	QPSK	32.47	23.68	8.79
				16QAM	32.13	22.64	9.49
	20MHz / 15MHz	2527.6	2544.7	QPSK	32.39	23.62	8.77
				16QAM	30.02	22.62	7.40
	20MHz / 20MHz	2525.1	2544.9	QPSK	32.52	23.61	8.91
				16QAM	32.50	22.64	9.86
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.3. LTE BAND 41

Test Engineer ID:	10641	Test Date:	5/26/2021

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 41 (FCC)	5MHz / 20MHz	2583.8	2595.5	QPSK	33.75	18.83	7.93
				16QAM	33.61	17.80	8.82
	20MHz / 5MHz	2590.5	2602.2	QPSK	32.93	18.73	7.21
				16QAM	32.92	17.73	8.20
	10MHz / 20MHz	2583.6	2598.0	QPSK	33.60	18.76	7.85
				16QAM	33.50	17.82	8.69
	20MHz / 10MHz	2588.1	2602.5	QPSK	32.97	18.73	7.25
				16QAM	33.09	17.76	8.34
	15MHz / 15MHz	2585.5	2600.5	QPSK	33.51	18.7	7.82
				16QAM	33.40	17.75	8.66
	15MHz / 20MHz	2583.3	2600.4	QPSK	33.40	18.71	7.70
				16QAM	33.52	17.77	8.76
	20MHz / 15MHz	2585.6	2602.7	QPSK	33.25	18.69	7.57
				16QAM	33.25	17.77	8.49
	20MHz / 20MHz	2583.1	2602.9	QPSK	33.50	18.7	7.81
				16QAM	33.30	17.71	8.60
Duty Cycle Correction Factor (dB) =			6.99				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.4. LTE BAND 48

Test Engineer ID:	RYAN	Test Date:	3/16/2021

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 41 (FCC)	5MHz / 20MHz	3615.8	3627.5	QPSK	35.31	21.31	7.00
				16QAM	35.56	20.35	8.21
	20MHz / 5MHz	3622.5	3634.2	QPSK	35.53	21.33	7.20
				16QAM	35.41	20.39	8.02
	10MHz / 20MHz	3615.6	3630.0	QPSK	35.59	21.33	7.26
				16QAM	35.40	20.37	8.03
	20MHz / 10MHz	3620.1	3634.5	QPSK	35.47	21.32	7.15
				16QAM	35.48	20.36	8.12
	15MHz / 20MHz	3615.3	3632.4	QPSK	35.68	21.29	7.39
				16QAM	35.58	20.34	8.24
	20MHz / 15MHz	3617.6	3634.7	QPSK	35.81	21.33	7.48
				16QAM	35.63	20.38	8.25
	20MHz / 20MHz	3615.1	3634.9	QPSK	35.79	21.32	7.47
				16QAM	35.54	20.34	8.20
Duty Cycle Correction Factor (dB) =			7.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.5. LTE BAND 66B

Test Engineer ID:	19431	Test Date:	5/11/2021

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 66B	5MHz / 5MHz	1752.6	1757.4	QPSK	31.98	23.42	8.56
				16QAM	31.92	22.44	9.48
	5MHz / 10MHz	1750.3	1757.5	QPSK	31.76	23.45	8.31
				16QAM	31.81	22.47	9.34
	10 MHz / 5MHz	1752.5	1759.7	QPSK	31.98	23.46	8.52
				16QAM	31.94	22.75	9.19
	5MHz / 15MHz	1748.1	1757.4	QPSK	31.64	23.7	7.94
				16QAM	31.67	22.46	9.21
	15MHz / 5MHz	1752.6	1761.9	QPSK	31.94	23.44	8.50
				16QAM	31.90	22.49	9.41
	10MHz / 10MHz	1750.1	1760.0	QPSK	31.84	23.88	7.96
				16QAM	31.91	22.51	9.40
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.6. LTE BAND 66C

Test Engineer ID:	19431	Test Date:	5/11/2021

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 66C	10MHz / 15MHz	1749.9	1759.9	QPSK	31.82	23.46	8.36
				16QAM	31.72	22.43	9.29
	15MHz / 10MHz	1750.1	1762.1	QPSK	31.94	23.49	8.45
				16QAM	31.77	22.53	9.24
	10MHz / 20MHz	1745.6	1760.0	QPSK	31.79	23.69	8.10
				16QAM	31.68	22.53	9.15
	20MHz / 10MHz	1750.1	1764.5	QPSK	32.08	23.92	8.16
				16QAM	32.07	22.55	9.52
	15MHz / 15MHz	1747.5	1762.5	QPSK	31.91	23.46	8.45
				16QAM	31.87	22.49	9.38
	15MHz / 20MHz	1745.3	1762.4	QPSK	31.86	23.53	8.33
				16QAM	31.88	22.9	8.98
	20MHz / 15MHz	1747.6	1764.7	QPSK	32.14	23.55	8.59
				16QAM	31.91	22.93	8.98
	20MHz / 5MHz	1752.5	1764.2	QPSK	32.20	23.55	8.65
				16QAM	32.12	22.71	9.41
	5MHz / 20MHz	1745.8	1757.5	QPSK	31.71	23.53	8.18
				16QAM	31.65	22.79	8.86
	20MHz / 20MHz	1745.1	1764.9	QPSK	31.97	23.53	8.44
				16QAM	31.84	22.55	9.29
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

10. RADIATED TEST RESULTS

Radiated measurement using the Field Strength Method

Using the test configuration shown in Figure 6 below, We measure the radiated emissions directly from the EUT and convert the measured field strength or received power to ERP or EIRP, as required, for comparison to the applicable limits. As stated in 5.5.1 of ANSI C63.26-2015, the field strength measurement method using a test site validated to the requirements of ANSI C63.4 is an alternative to the substitution measurement method.

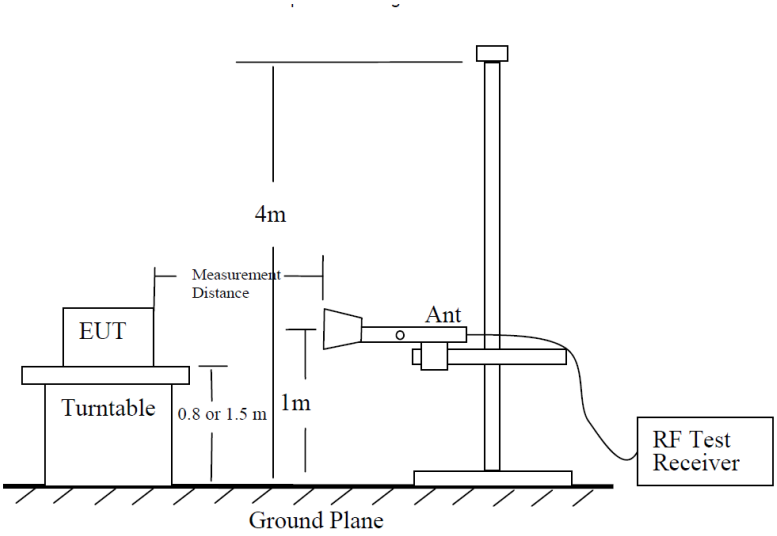


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

Radiated Power Measurement Calculation According to ANSI C63.26-2015

a) E (dBμV/m) = Measured amplitude level (dBμV) + Cable Loss (dB) + Antenna Factor (dB/m).

b) E (dBμV/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m).

c) E (dBμV/m) = EIRP (dBm) − 20log(D) + 104.8; where D is the measurement distance (in the far field region) in m.

d) EIRP (dBm) = E (dBμV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

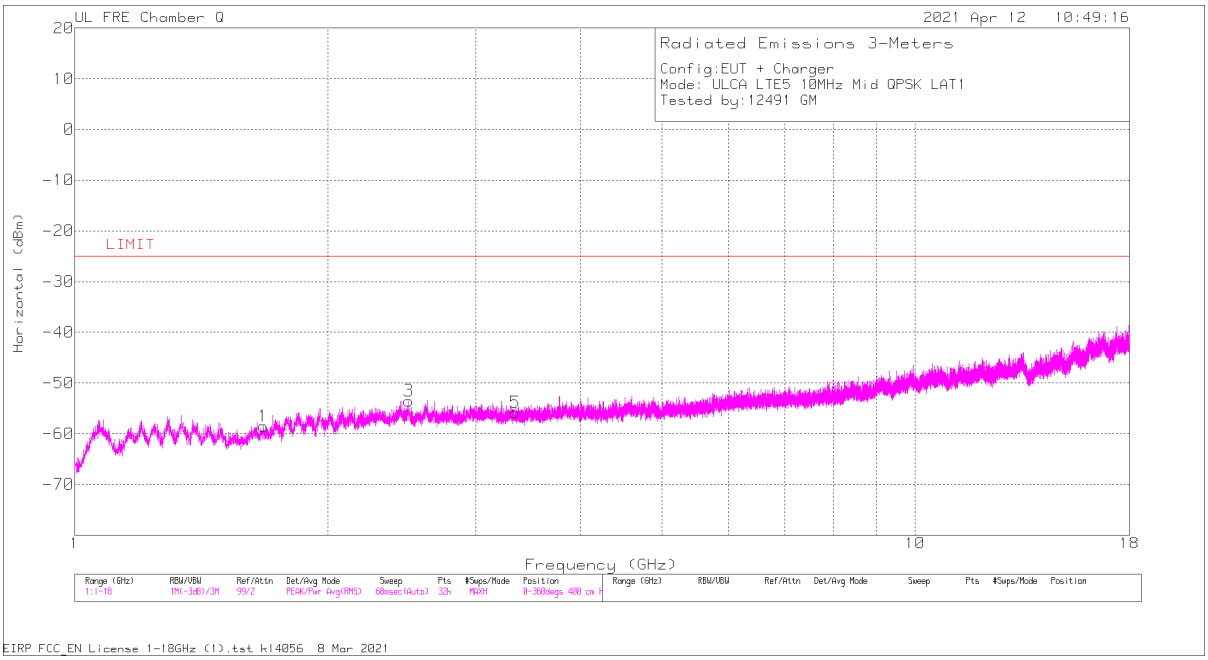
So, from d)

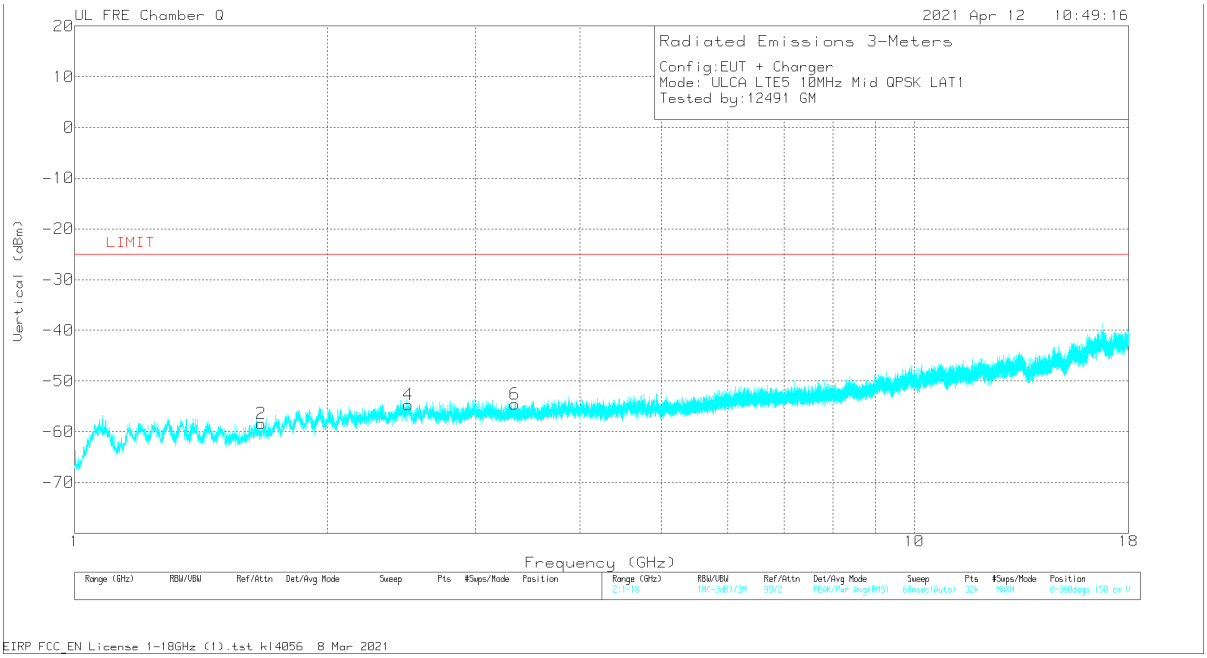
The measuring distance is usually at 3m, then 20*Log(3)=9.5424

Then, EIRP (dBm) = E (dBμV/m) + 9.5424 − 104.8 = E (dBμV/m) – 95.2576

Note that: we do confidence check to our chambers every day to see if any degradation from expected/normal reading reference data. Also we do ambient check to all our chambers every month.

10.1. Plot Example





Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
1.67502	45.94	Pk	28.4	-45.1	0.6	-95.2	-65.36	-25	-40.36	H
2.49189	44.31	Pk	32.5	-44.2	0.5	-95.2	-62.09	-25	-37.09	H
3.34582	41.17	Pk	32.5	-42.2	0.5	-95.2	-63.23	-25	-38.23	H
1.66814	44.31	Pk	28.4	-45.1	0.6	-95.2	-66.99	-25	-41.99	V
2.49722	43.93	Pk	32.5	-44.3	0.5	-95.2	-62.57	-25	-37.57	V
3.34341	41.41	Pk	32.4	-42.3	0.5	-95.2	-63.19	-25	-38.19	V

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT1

TEST PROCEDURE

KDB 971168 D01/D02 v02r01

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

RESULTS

Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

10.2.1. LTE BAND 5

LIMIT

FCC: §22.917(a)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 5 (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/12/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 5 QPSK 10 + 10
Chamber #:	Chamber Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz										
1.66687	49.64	Pk	28.4	-45.1	0.6	-95.2	-61.66	-13	-48.66	H
2.50024	47.21	Pk	32.5	-44.3	0.5	-95.2	-59.29	-13	-46.29	H
3.33722	41.55	Pk	32.4	-42.3	0.5	-95.2	-63.05	-13	-50.05	H
1.67033	45.12	Pk	28.4	-45	0.6	-95.2	-66.08	-13	-53.08	V
2.50006	45.17	Pk	32.5	-44.3	0.5	-95.2	-61.33	-13	-48.33	V
3.3398	41.39	Pk	32.4	-42.3	0.5	-95.2	-63.21	-13	-50.21	V
Mid Channel, 831.6MHz + 841.5MHz										
1.67502	45.94	Pk	28.4	-45.1	0.6	-95.2	-65.36	-13	-52.36	H
2.49189	44.31	Pk	32.5	-44.2	0.5	-95.2	-62.09	-13	-49.09	H
3.34582	41.17	Pk	32.5	-42.2	0.5	-95.2	-63.23	-13	-50.23	H
1.66814	44.31	Pk	28.4	-45.1	0.6	-95.2	-66.99	-13	-53.99	V
2.49722	43.93	Pk	32.5	-44.3	0.5	-95.2	-62.57	-13	-49.57	V
3.34341	41.41	Pk	32.4	-42.3	0.5	-95.2	-63.19	-13	-50.19	V
High Channel, 834.1MHz + 844MHz										
1.675	45.95	Pk	28.4	-45.1	0.6	-95.2	-65.35	-13	-52.35	H
2.51653	42.71	Pk	32.4	-44.3	0.5	-95.2	-63.89	-13	-50.89	H
3.35649	40.98	Pk	32.5	-42.2	0.5	-95.2	-63.42	-13	-50.42	H
1.675	45.78	Pk	28.4	-45.1	0.6	-95.2	-65.52	-13	-52.52	V
2.51548	42.92	Pk	32.4	-44.3	0.5	-95.2	-63.68	-13	-50.68	V
3.35781	41.1	Pk	32.5	-42.2	0.5	-95.2	-63.3	-13	-50.3	V

Pk - Peak detector

10.2.2. LTE BAND 7

LIMIT

FCC: §27.53 (m)
At least 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/7/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 7 QPSK 20+20
Chamber #:	Chamber Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 2510MHz + 2525.8MHz									
5.04215	40.24	Pk	33.9	-41.7	-95.2	-62.76	-25	-37.76	H
7.56275	37.19	Pk	35.6	-38.3	-95.2	-60.71	-25	-35.71	H
10.07911	36.73	Pk	37.1	-37.2	-95.2	-58.57	-25	-33.57	H
5.03883	40.8	Pk	33.9	-41.7	-95.2	-62.2	-25	-37.2	V
7.55758	39.64	Pk	35.6	-38.3	-95.2	-58.26	-25	-33.26	V
10.08004	37.08	Pk	37.1	-37.2	-95.2	-58.22	-25	-33.22	V
Mid Channel, 2525.1MHz + 2544.9MHz									
5.06915	40.92	Pk	34	-41.7	-95.2	-61.98	-25	-36.98	H
7.60205	45.57	Pk	35.7	-38.3	-95.2	-52.23	-25	-27.23	H
10.14096	36.21	Pk	37.3	-36.7	-95.2	-58.39	-25	-33.39	H
5.07188	40.03	Pk	34	-41.7	-95.2	-62.87	-25	-37.87	V
7.60204	45.72	Pk	35.7	-38.3	-95.2	-52.08	-25	-27.08	V
10.14294	36.73	Pk	37.2	-36.7	-95.2	-57.97	-25	-32.97	V
High Channel, 2540.2MHz + 2560MHz									
5.10813	39.55	Pk	34.1	-41.6	-95.2	-63.15	-25	-38.15	H
7.64734	48.22	Pk	35.7	-38.2	-95.2	-49.48	-25	-24.48	H
10.19579	37.26	Pk	37.2	-36.3	-95.2	-57.04	-25	-32.04	H
5.1034	39.55	Pk	34.1	-41.5	-95.2	-63.05	-25	-38.05	V
7.64736	48.37	Pk	35.7	-38.2	-95.2	-49.33	-25	-24.33	V
10.19599	37.32	Pk	37.2	-36.3	-95.2	-56.98	-25	-31.98	V

Pk - Peak detector

10.2.3. LTE BAND 41

LIMIT

FCC: §27.53 (m)
At least 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/12/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 41 (FCC) QPSK 20 + 20
Chamber #:	Chamber Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.02555	41.02	Pk	33.8	-41.7	-95.2	-62.08	-25	-37.08	H
7.54661	37.89	Pk	35.7	-38.3	-95.2	-59.91	-25	-34.91	H
10.06436	37.31	Pk	37.1	-37.4	-95.2	-58.19	-25	-33.19	H
5.02648	40.78	Pk	33.8	-41.7	-95.2	-62.32	-25	-37.32	V
10.0657	36.87	Pk	37.1	-37.4	-95.2	-58.63	-25	-33.63	V
7.5475	37.56	Pk	35.7	-38.3	-95.2	-60.24	-25	-35.24	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.18726	40.4	Pk	34.2	-41.5	-95.2	-62.1	-25	-37.1	H
7.78078	37.86	Pk	35.8	-38.1	-95.2	-59.64	-25	-34.64	H
10.37135	37.07	Pk	37.5	-36.9	-95.2	-57.53	-25	-32.53	H
5.18781	37.49	Pk	34.2	-41.5	-95.2	-65.01	-25	-40.01	V
7.78018	38.66	Pk	35.8	-38.1	-95.2	-58.84	-25	-33.84	V
10.37248	37.99	Pk	37.5	-36.9	-95.2	-56.61	-25	-31.61	V
High Channel, 2660.2MHz + 2680MHz									
5.33983	39.52	Pk	34.3	-40.9	-95.2	-62.28	-25	-37.28	H
8.00897	36.08	Pk	35.8	-37.7	-95.2	-61.02	-25	-36.02	H
10.68233	35.41	Pk	37.8	-35.3	-95.2	-57.29	-25	-32.29	H
5.33989	38.87	Pk	34.3	-40.9	-95.2	-62.93	-25	-37.93	V
8.00836	37.05	Pk	35.8	-37.7	-95.2	-60.05	-25	-35.05	V
10.67847	36.61	Pk	37.8	-35.4	-95.2	-56.19	-25	-31.19	V

Pk - Peak detector

10.2.4. LTE BAND 66B

LIMIT

FCC: §27.53 (h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 66B (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/1/2021
Test Engineer:	44366 TXL
Configuration:	EUT Only
Mode	Band 66 (B) QPSK 10 + 10
Chamber #:	Chamber Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1715MHz + 1724.9MHz									
3.62566	52.19	Pk	32.8	-41.5	-95.2	-51.71	-13	-38.71	H
5.07934	50.68	Pk	34	-41.8	-95.2	-52.32	-13	-39.32	H
11.13824	45.58	Pk	38	-34.6	-95.2	-46.22	-13	-33.22	H
3.62712	51.19	Pk	32.8	-41.5	-95.2	-52.71	-13	-39.71	V
5.0577	50.58	Pk	33.9	-41.7	-95.2	-52.42	-13	-39.42	V
7.12792	48.13	Pk	35.5	-38.7	-95.2	-50.27	-13	-37.27	V
Mid Channel, 1750.1MHz + 1760MHz									
2.61815	56.43	Pk	32.1	-43.9	-95.2	-50.57	-13	-37.57	H
5.04121	50.67	Pk	33.9	-41.7	-95.2	-52.33	-13	-39.33	H
6.75838	49.08	Pk	35.5	-38.8	-95.2	-49.42	-13	-36.42	H
3.01565	53.22	Pk	32.7	-43.4	-95.2	-52.68	-13	-39.68	V
5.00122	50.99	Pk	33.8	-41.8	-95.2	-52.21	-13	-39.21	V
6.76653	49.21	Pk	35.5	-38.7	-95.2	-49.19	-13	-36.19	V
High Channel, 1765.1MHz + 1775MHz									
2.97799	54.32	Pk	32.6	-43.5	-95.2	-51.78	-13	- 38.78	H
5.06445	50.65	Pk	34	-41.6	-95.2	-52.15	-13	-39.15	H
7.04059	48.53	Pk	35.6	-38.4	-95.2	-49.47	-13	- 36.47	H
2.96992	53.94	Pk	32.5	-43.6	-95.2	-52.36	- 13	- 39.36	V
5.06735	50.76	Pk	34	-41.7	-95.2	-52.14	-13	-39.14	V
7.03029	48.56	Pk	35.6	-38.6	-95.2	-49.64	- 13	- 36.64	V

Pk - Peak detector

10.2.5. LTE BAND 66C

LIMIT

FCC: §27.53 (h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 66C (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/6/2021
Test Engineer:	44366 TXL
Configuration:	EUT Only
Mode	Band 66 (C) QPSK 20 + 20
Chamber #:	Chamber Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1720MHz + 1739.8MHz									
3.81241	50.24	Pk	33.3	-41.4	-95.2	-53.06	-13	-40.06	H
5.24952	51.1	Pk	34.1	-41.2	-95.2	-51.2	-13	-38.2	H
6.85175	48.09	Pk	35.4	-38.6	-95.2	-50.31	-13	-37.31	H
3.80836	50.38	Pk	33.3	-41.3	-95.2	-52.82	-13	-39.82	V
5.25926	51.18	Pk	34.1	-41.4	-95.2	-51.32	-13	-38.32	V
6.85582	48.29	Pk	35.5	-38.7	-95.2	-50.11	-13	-37.11	V
Mid Channel, 1745.1MHz + 1764.9MHz									
3.59047	51.48	Pk	32.7	-41.6	-95.2	-52.62	-13	-39.62	H
5.27457	50.91	Pk	34.2	-41	-95.2	-51.09	-13	-38.09	H
6.81904	48.38	Pk	35.5	-38.7	-95.2	-50.02	-13	-37.02	H
3.5611	51.21	Pk	32.7	-41.6	-95.2	-52.89	-13	-39.89	V
5.24536	50.91	Pk	34.2	-41.2	-95.2	-51.29	-13	-38.29	V
6.86948	48.77	Pk	35.5	-38.7	-95.2	-49.63	-13	-36.63	V
High Channel, 1750.2MHz + 1770MHz									
3.61328	51.46	Pk	32.8	-41.6	-95.2	-52.54	-13	-39.54	H
5.35085	50.57	Pk	34.3	-40.8	-95.2	-51.13	-13	-38.13	H
6.77868	48.79	Pk	35.5	-38.8	-95.2	-49.71	-13	-36.71	H
3.60775	51.27	Pk	32.7	-41.6	-95.2	-52.83	-13	-39.83	V
4.25542	52.62	Pk	33.3	-41.8	-95.2	-51.08	-13	-38.08	V
6.7291	48.37	Pk	35.6	-38.8	-95.2	-50.03	-13	-37.03	V

Pk - Peak detector

10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT2

TEST PROCEDURE

KDB 971168 D01/D02 v02r01

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

RESULTS

Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

10.3.1. LTE BAND 5

LIMIT

FCC: §22.917(a)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 5 (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/9/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 5 QPSK 10 + 10
Chamber #:	Chamber Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz										
1.67069	43.63	Pk	28.4	-45.1	0.6	-95.2	-67.67	-13	-54.67	H
2.50366	43.4	Pk	32.5	-44.3	0.5	-95.2	-63.1	-13	-50.1	H
3.33621	40.9	Pk	32.5	-42.3	0.5	-95.2	-63.6	-13	-50.6	H
1.67124	43.3	Pk	28.4	-45.1	0.6	-95.2	-68	-13	-55	V
2.4999	43.14	Pk	32.5	-44.3	0.5	-95.2	-63.36	-13	-50.36	V
3.34057	40.97	Pk	32.4	-42.3	0.5	-95.2	-63.63	-13	-50.63	V
Mid Channel, 831.6MHz + 841.5MHz										
1.6744	54.57	Pk	28.4	-45.1	0.6	-95.2	-56.73	-13	-43.73	H
2.50678	53.1	Pk	32.5	-44.4	0.5	-95.2	-53.5	-13	-40.5	H
3.34496	51.47	Pk	32.4	-42.2	0.5	-95.2	-53.03	-13	-40.03	H
1.67265	43.22	Pk	28.4	-45.1	0.6	-95.2	-68.08	-13	-55.08	V
2.50803	42.78	Pk	32.5	-44.4	0.5	-95.2	-63.82	-13	-50.82	V
3.34662	40.97	Pk	32.5	-42.2	0.5	-95.2	-63.43	-13	-50.43	V
High Channel, 834.1MHz + 844MHz										
1.67504	43.71	Pk	28.4	-45.1	0.6	-95.2	-67.59	-13	-54.59	H
2.51922	42.42	Pk	32.4	-44.4	0.5	-95.2	-64.28	-13	-51.28	H
3.35561	40.89	Pk	32.5	-42.2	0.5	-95.2	-63.51	-13	-50.51	H
1.67805	43.63	Pk	28.4	-45.1	0.6	-95.2	-67.67	-13	-54.67	V
2.51553	42.99	Pk	32.4	-44.3	0.5	-95.2	-63.61	-13	-50.61	V
3.35549	41.59	Pk	32.5	-42.2	0.5	-95.2	-62.81	-13	-49.81	V

Pk - Peak detector

10.3.2. LTE BAND 7

LIMIT

FCC: §27.53 (m)
At least 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/12/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 7 QPSK 20+20
Chamber #:	Chamber Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 2510MHz + 2525.8MHz									
5.04126	39.87	Pk	33.9	-41.7	-95.2	-63.13	-25	-38.13	H
7.56133	38.47	Pk	35.6	-38.2	-95.2	-59.33	-25	-34.33	H
10.08229	36.5	Pk	37.1	-37.2	-95.2	-58.8	-25	-33.8	H
5.03779	42.51	Pk	33.9	-41.7	-95.2	-60.49	-25	-35.49	V
7.55675	46.72	Pk	35.6	-38.3	-95.2	-51.18	-25	-26.18	V
10.08038	37.05	Pk	37.1	-37.2	-95.2	-58.25	-25	-33.25	V
Mid Channel, 2525.1MHz + 2544.9MHz									
5.06804	43.67	Pk	34	-41.7	-95.2	-59.23	-25	-34.23	-25
7.60691	37.52	Pk	35.7	-38.2	-95.2	-60.18	-25	-35.18	-25
10.14759	37.53	Pk	37.2	-36.6	-95.2	-57.07	-25	-32.07	-25
5.07026	40.01	Pk	34	-41.7	-95.2	-62.89	-25	-37.89	-25
7.60202	41.73	Pk	35.7	-38.3	-95.2	-56.07	-25	-31.07	-25
10.14684	36.51	Pk	37.2	-36.6	-95.2	-58.09	-25	-33.09	-25
High Channel, 2540.2MHz + 2560MHz									
5.10225	40.19	Pk	34.1	-41.6	-95.2	-62.51	-25	-37.51	H
7.64961	37.49	Pk	35.7	-38.1	-95.2	-60.11	-25	-35.11	H
10.20435	36.69	Pk	37.2	-36.1	-95.2	-57.41	-25	-32.41	H
5.09569	39.8	Pk	34.1	-41.6	-95.2	-62.9	-25	-37.9	V
7.64726	40.07	Pk	35.7	-38.2	-95.2	-57.63	-25	-32.63	V
10.20371	37.44	Pk	37.2	-36.1	-95.2	-56.66	-25	-31.66	V

Pk - Peak detector

10.3.3. LTE BAND 41

LIMIT

FCC: §27.53 (m)
At least 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/12/21
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 41 (FCC) QPSK 20 + 20
Chamber #:	Chamber Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.03124	40.93	Pk	33.9	-41.7	-95.2	-62.07	-25	-37.07	H
7.54752	37.57	Pk	35.7	-38.3	-95.2	-60.23	-25	-35.23	H
10.06468	37.3	Pk	37.1	-37.4	-95.2	-58.2	-25	-33.2	H
5.03349	40.62	Pk	33.9	-41.7	-95.2	-62.38	-25	-37.38	V
7.54812	38.05	Pk	35.7	-38.2	-95.2	-59.65	-25	-34.65	V
10.06411	37.31	Pk	37.2	-37.4	-95.2	-58.09	-25	-33.09	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.184	48.85	Pk	34.2	-41.5	-95.2	-53.65	-25	-28.65	H
7.77593	39.13	Pk	35.8	-38.1	-95.2	-58.37	-25	-33.37	H
10.37014	36.95	Pk	37.5	-36.8	-95.2	-57.55	-25	-32.55	H
5.18413	42.75	Pk	34.2	-41.5	-95.2	-59.75	-25	-34.75	V
7.77598	43.09	Pk	35.8	-38.1	-95.2	-54.41	-25	-29.41	V
10.37304	37.59	Pk	37.5	-36.8	-95.2	-56.91	-25	-31.91	V
High Channel, 2660.2MHz + 2680MHz									
5.33892	39.04	Pk	34.4	-40.9	-95.2	-62.66	-25	-37.66	H
8.0093	36.93	Pk	35.8	-37.7	-95.2	-60.17	-25	-35.17	H
10.68149	36.41	Pk	37.8	-35.4	-95.2	-56.39	-25	-31.39	H
5.34121	39.86	Pk	34.3	-40.9	-95.2	-61.94	-25	-36.94	V
8.00894	36.34	Pk	35.8	-37.7	-95.2	-60.76	-25	-35.76	V
10.67805	36.02	Pk	37.8	-35.3	-95.2	-56.68	-25	-31.68	V

Pk - Peak detector

10.3.4. LTE BAND 66B

LIMIT

FCC: §27.53 (h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 66B (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/1/2021
Test Engineer:	44366 TXL
Configuration:	EUT Only
Mode	Band 66B QPSK 10 + 10
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1715MHz + 1724.9MHz									
3.55332	51.02	Pk	32.8	-41.6	-95.2	-52.98	-13	-39.98	H
5.34073	50.08	Pk	34.3	-40.9	-95.2	-51.72	-13	-38.72	H
7.04087	48.03	Pk	35.6	-38.4	-95.2	-49.97	-13	-36.97	H
3.56223	51.15	Pk	32.7	-41.6	-95.2	-52.95	-13	-39.95	V
5.32952	50.33	Pk	34.3	-41	-95.2	-51.57	-13	-38.57	V
7.07014	48.29	Pk	35.6	-38.6	-95.2	-49.91	-13	-36.91	V
Mid Channel, 1750.1MHz + 1760MHz									
2.3315	57.11	Pk	31.8	-44.6	-95.2	-50.89	-13	-37.89	H
3.48959	50.31	Pk	32.7	-41.8	-95.2	-53.99	-13	-40.99	H
5.03844	51.15	Pk	33.9	-41.7	-95.2	-51.85	-13	-38.85	H
3.47623	51.04	Pk	32.7	-41.9	-95.2	-53.36	-13	-40.36	V
5.06843	50.81	Pk	34	-41.7	-95.2	-52.09	-13	-39.09	V
6.78223	49.08	Pk	35.5	-38.8	-95.2	-49.42	-13	-36.42	V
High Channel, 1765.1MHz + 1775MHz									
3.5228	51.07	Pk	32.8	-41.7	-95.2	-53.03	-13	-40.03	H
5.00904	51.04	Pk	33.8	-41.8	-95.2	-52.16	-13	-39.16	H
6.768	49.05	Pk	35.5	-38.8	-95.2	-49.45	-13	-36.45	H
3.50994	51.02	Pk	32.7	-41.8	-95.2	-53.28	-13	-40.28	V
5.01653	51.48	Pk	33.8	-41.7	-95.2	-51.62	-13	-38.62	V
6.80541	48.59	Pk	35.5	-38.8	-95.2	-49.91	-13	-36.91	V

Pk - Peak detector

10.3.5. LTE BAND 66C

LIMIT

FCC: §27.53 (h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 66C (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/2/2021
Test Engineer:	44366 TXL
Configuration:	EUT Only
Mode	Band 66C QPSK 20 + 20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1720MHz + 1739.8MHz									
3.55186	50.9	Pk	32.8	-41.5	-95.2	-53	-13	-40	H
5.32683	50.83	Pk	34.4	-41	-95.2	-50.97	-13	-37.97	H
6.84097	48.07	Pk	35.5	-38.6	-95.2	-50.23	-13	-37.23	H
3.56928	51.89	Pk	32.7	-41.7	-95.2	-52.31	-13	-39.31	V
5.32214	50.5	Pk	34.4	-41	-95.2	-51.3	-13	-38.3	V
6.76251	47.92	Pk	35.5	-38.8	-95.2	-50.58	-13	-37.58	V
Mid Channel, 1745.1MHz + 1764.9MHz									
5.42958	49.79	Pk	34.3	-40.8	-95.2	-51.91	-13	-38.91	H
6.8498	48.79	Pk	35.4	-38.7	-95.2	-49.71	-13	-36.71	H
3.55635	51.35	Pk	32.8	-41.5	-95.2	-52.55	-13	-39.55	H
3.51306	51.36	Pk	32.7	-41.8	-95.2	-52.94	-13	-39.94	V
5.4457	49.9	Pk	34.3	-40.7	-95.2	-51.7	-13	-38.7	V
6.86063	48.15	Pk	35.6	-38.7	-95.2	-50.15	-13	-37.15	V
High Channel, 1750.2MHz + 1770MHz									
3.62822	51.78	Pk	32.8	-41.5	-95.2	-52.12	-13	-39.12	H
5.2433	51.01	Pk	34.1	-41.2	-95.2	-51.29	-13	-38.29	H
6.90578	48.92	Pk	35.5	-38.6	-95.2	-49.38	-13	-36.38	H
3.63453	51.79	Pk	32.8	-41.5	-95.2	-52.11	-13	-39.11	V
5.22662	50.55	Pk	34.2	-41.2	-95.2	-51.65	-13	-38.65	V
6.97138	48.69	Pk	35.7	-38.5	-95.2	-49.31	-13	-36.31	V

Pk - Peak detector

10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT3

TEST PROCEDURE

KDB 971168 D01/D02 v02r01

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

RESULTS

Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

10.4.1. LTE BAND 7

LIMIT

FCC: §27.53 (m)
At least 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/9/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 7 QPSK 20+20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 2510MHz + 2525.8MHz									
5.04123	40.31	Pk	33.9	-41.7	-95.2	-62.69	-25	-37.69	H
7.5567	37.88	Pk	35.6	-38.3	-95.2	-60.02	-25	-35.02	H
10.07816	37.67	Pk	37.1	-37.2	-95.2	-57.63	-25	-32.63	H
5.04344	40.95	Pk	33.9	-41.7	-95.2	-62.05	-25	-37.05	V
7.56474	37.94	Pk	35.7	-38.3	-95.2	-59.86	-25	-34.86	V
10.07632	38.2	Pk	37.1	-37.2	-95.2	-57.1	-25	-32.1	V
Mid Channel, 2525.1MHz + 2544.9MHz									
5.06952	41.1	Pk	34	-41.7	-95.2	-61.8	-25	-36.8	H
7.60401	37.57	Pk	35.7	-38.2	-95.2	-60.13	-25	-35.13	H
10.13906	36.39	Pk	37.3	-36.7	-95.2	-58.21	-25	-33.21	H
5.0683	40.15	Pk	34	-41.7	-95.2	-62.75	-25	-37.75	V
7.60439	37.15	Pk	35.7	-38.2	-95.2	-60.55	-25	-35.55	V
10.13739	36.67	Pk	37.3	-36.7	-95.2	-57.93	-25	-32.93	V
High Channel, 2540.2MHz + 2560MHz									
5.09834	39.61	Pk	34.1	-41.7	-95.2	-63.19	-25	-38.19	H
7.65103	36.58	Pk	35.7	-38.2	-95.2	-61.12	-25	-36.12	H
10.20009	36.61	Pk	37.3	-36.2	-95.2	-57.49	-25	-32.49	H
5.09843	40.11	Pk	34.1	-41.6	-95.2	-62.59	-25	-37.59	V
7.64852	38.34	Pk	35.7	-38.2	-95.2	-59.36	-25	-34.36	V
10.20061	36.32	Pk	37.3	-36.2	-95.2	-57.78	-25	-32.78	V

Pk - Peak detector

10.4.2. LTE BAND 41

LIMIT

FCC: §27.53 (m)
At least 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/8-4/13/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 41 (FCC) QPSK 20 + 20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.03858	40.26	Pk	33.9	-41.7	-95.2	-62.74	-25	-37.74	H
7.54824	37.96	Pk	35.7	-38.2	-95.2	-59.74	-25	-34.74	H
10.06393	38.67	Pk	37.2	-37.4	-95.2	-56.73	-25	-31.73	H
5.03341	40.05	Pk	33.9	-41.7	-95.2	-62.95	-25	-37.95	V
7.54801	37.65	Pk	35.7	-38.2	-95.2	-60.05	-25	-35.05	V
10.06839	37.58	Pk	37.1	-37.3	-95.2	-57.82	-25	-32.82	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.18403	49.21	Pk	34.2	-41.5	-95.2	-53.29	-25	-28.29	H
7.78834	37.89	Pk	35.8	-38.1	-95.2	-59.61	-25	-34.61	H
10.36837	37.24	Pk	37.4	-36.9	-95.2	-57.46	-25	-32.46	H
5.19105	39.82	Pk	34.2	-41.5	-95.2	-62.68	-25	-37.68	V
7.79299	37.27	Pk	35.8	-38	-95.2	-60.13	-25	-35.13	V
10.36798	38.14	Pk	37.4	-36.9	-95.2	-56.56	-25	-31.56	V
High Channel, 2660.2MHz + 2680MHz									
5.33949	39.29	Pk	34.4	-40.9	-95.2	-62.41	-25	-37.41	H
8.00529	36.3	Pk	35.8	-37.6	-95.2	-60.7	-25	-35.7	H
10.683	35.45	Pk	37.8	-35.3	-95.2	-57.25	-25	-32.25	H
5.34327	38.98	Pk	34.3	-40.8	-95.2	-62.72	-25	-37.72	V
8.01074	36.86	Pk	35.8	-37.6	-95.2	-60.14	-25	-35.14	V
10.68361	36.24	Pk	37.8	-35.3	-95.2	-56.46	-25	-31.46	V

Pk - Peak detector

10.4.3. LTE BAND 66B

LIMIT

FCC: §27.53 (h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 66B (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/1/2021
Test Engineer:	44366 TXL
Configuration:	EUT Only
Mode	Band 66B QPSK 10 + 10
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1715MHz + 1724.9MHz									
3.76938	50.52	Pk	33.3	-41.4	-95.2	-52.78	-13	-39.78	H
5.31599	50.93	Pk	34.3	-40.9	-95.2	-50.87	-13	-37.87	H
7.04052	48.29	Pk	35.6	-38.5	-95.2	-49.81	-13	-36.81	H
3.76325	50.57	Pk	33.4	-41.4	-95.2	-52.63	-13	-39.63	V
5.3327	50.25	Pk	34.4	-41	-95.2	-51.55	-13	-38.55	V
7.04224	48.41	Pk	35.6	-38.5	-95.2	-49.69	-13	-36.69	V
Mid Channel, 1750.1MHz + 1760MHz									
3.69181	52.42	Pk	32.9	-41.5	-95.2	-51.38	-13	-38.38	H
4.69443	51.42	Pk	33.9	-41.9	-95.2	-51.78	-13	-38.78	H
7.04796	48.15	Pk	35.6	-38.4	-95.2	-49.85	-13	-36.85	H
3.67179	51.14	Pk	33	-41.7	-95.2	-52.76	-13	-39.76	V
4.89842	51.26	Pk	33.8	-41.9	-95.2	-52.04	-13	-39.04	V
7.22927	48.69	Pk	35.6	-38.6	-95.2	-49.51	-13	-36.51	V
High Channel, 1765.1MHz + 1775MHz									
3.64393	51.82	Pk	32.9	-41.6	-95.2	-52.08	-13	-39.08	H
5.29725	50.49	Pk	34.2	-41.1	-95.2	-51.61	-13	-38.61	H
6.4751	48.76	Pk	35.4	-39	-95.2	-50.04	-13	-37.04	H
3.62348	51.97	Pk	32.8	-41.5	-95.2	-51.93	-13	-38.93	V
5.29702	50.59	Pk	34.2	-41.1	-95.2	-51.51	-13	-38.51	V
7.26903	48.33	Pk	35.6	-38.6	-95.2	-49.87	-13	-36.87	V

Pk - Peak detector

10.4.4. LTE BAND 66C

LIMIT

FCC: §27.53 (h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 66C (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/2/2021
Test Engineer:	44366 TXL
Configuration:	EUT Only
Mode	Band 66C QPSK 20 + 20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1720MHz + 1739.8MHz									
3.68165	51.39	Pk	33	-41.6	-95.2	-52.41	-13	-39.41	H
5.18692	50.6	Pk	34.2	-41.5	-95.2	-51.9	-13	-38.9	H
9.9623	48.86	Pk	37	-37.2	-95.2	-46.54	-13	-33.54	H
3.68483	50.75	Pk	32.9	-41.6	-95.2	-53.15	-13	-40.15	V
5.18818	50.65	Pk	34.2	-41.5	-95.2	-51.85	-13	-38.85	V
7.24229	48.54	Pk	35.5	-38.7	-95.2	-49.86	-13	-36.86	V
Mid Channel, 1745.1MHz + 1764.9MHz									
3.55481	51.08	Pk	32.8	-41.6	-95.2	-52.92	-13	-39.92	H
5.06349	50.84	Pk	34	-41.7	-95.2	-52.06	-13	-39.06	H
6.83203	47.91	Pk	35.4	-38.5	-95.2	-50.39	-13	-37.39	H
3.53484	50.68	Pk	32.9	-41.8	-95.2	-53.42	-13	-40.42	V
5.06769	50.99	Pk	34	-41.7	-95.2	-51.91	-13	-38.91	V
6.83169	47.78	Pk	35.4	-38.5	-95.2	-50.52	-13	-37.52	V
High Channel, 1750.2MHz + 1770MHz									
3.44555	51.89	Pk	32.6	-41.9	-95.2	-52.61	-13	-39.61	H
5.24112	50.88	Pk	34.1	-41.1	-95.2	-51.32	-13	-38.32	H
7.18766	48.7	Pk	35.6	-38.6	-95.2	-49.5	-13	-36.5	H
3.45237	50.94	Pk	32.6	-42	-95.2	-53.66	-13	-40.66	V
5.208	50.57	Pk	34.2	-41.4	-95.2	-51.83	-13	-38.83	V
7.18331	48.8	Pk	35.6	-38.6	-95.2	-49.4	-13	-36.4	V

Pk - Peak detector

10.5. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT4

TEST PROCEDURE

KDB 971168 D01/D02 v02r01

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

RESULTS

Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

10.5.1. LTE BAND 7

LIMIT

FCC: §27.53 (m)
At least 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/8/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 7 QPSK 20+20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 2510MHz + 2525.8MHz									
5.03779	47.71	Pk	33.9	-41.7	-95.2	-55.29	-25	-30.29	H
7.55675	45.41	Pk	35.6	-38.3	-95.2	-52.49	-25	-27.49	H
10.07176	37.32	Pk	37.1	-37.3	-95.2	-58.08	-25	-33.08	H
5.04082	40.7	Pk	33.9	-41.7	-95.2	-62.3	-25	-37.3	V
7.55675	45.42	Pk	35.6	-38.3	-95.2	-52.48	-25	-27.48	V
10.07149	37.12	Pk	37.1	-37.3	-95.2	-58.28	-25	-33.28	V
Mid Channel, 2525.1MHz + 2544.9MHz									
5.06806	44.52	Pk	34	-41.7	-95.2	-58.38	-25	-33.38	H
7.60205	49.95	Pk	35.7	-38.3	-95.2	-47.85	-25	-22.85	H
10.14047	36.09	Pk	37.3	-36.7	-95.2	-58.51	-25	-33.51	H
5.0707	40.88	Pk	34	-41.7	-95.2	-62.02	-25	-37.02	V
7.60203	61.02	Pk	35.7	-38.3	-95.2	-36.78	-25	-11.78	V
10.14068	35.99	Pk	37.3	-36.7	-95.2	-58.61	-25	-33.61	V
High Channel, 2540.2MHz + 2560MHz									
5.10243	39.73	Pk	34.1	-41.6	-95.2	-62.97	-25	-37.97	H
7.56099	38.07	Pk	35.6	-38.2	-95.2	-59.73	-25	-34.73	H
10.19593	37.25	Pk	37.2	-36.3	-95.2	-57.05	-25	-32.05	H
5.10637	40.27	Pk	34.1	-41.6	-95.2	-62.43	-25	-37.43	V
7.55655	37.6	Pk	35.6	-38.3	-95.2	-60.3	-25	-35.3	V
10.20214	36.2	Pk	37.3	-36.2	-95.2	-57.9	-25	-32.9	V

Pk - Peak detector

10.5.2. LTE BAND 41

LIMIT

FCC: §27.53 (m)
At least 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/8-4/13/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 41 (FCC) QPSK 20 + 20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.02906	40.82	Pk	33.8	-41.6	-95.2	-62.18	-25	-37.18	H
7.54177	37.71	Pk	35.6	-38.2	-95.2	-60.09	-25	-35.09	H
10.06441	37.47	Pk	37.1	-37.4	-95.2	-58.03	-25	-33.03	H
5.03296	40.07	Pk	33.9	-41.7	-95.2	-62.93	-25	-37.93	V
7.54677	37.65	Pk	35.7	-38.3	-95.2	-60.15	-25	-35.15	V
10.06646	37.37	Pk	37.1	-37.3	-95.2	-58.03	-25	-33.03	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.18405	47.57	Pk	34.2	-41.5	-95.2	-54.93	-25	-29.93	H
7.77595	47.58	Pk	35.8	-38.1	-95.2	-49.92	-25	-24.92	H
10.37772	36.88	Pk	37.5	-36.8	-95.2	-57.62	-25	-32.62	H
5.19531	40.02	Pk	34.2	-41.5	-95.2	-62.48	-25	-37.48	V
7.77608	39.82	Pk	35.8	-38.1	-95.2	-57.68	-25	-32.68	V
10.36647	37.68	Pk	37.4	-36.9	-95.2	-57.02	-25	-32.02	V
High Channel, 2660.2MHz + 2680MHz									
5.34252	39.6	Pk	34.3	-40.8	-95.2	-62.1	-25	-37.1	H
8.0062	36.14	Pk	35.8	-37.7	-95.2	-60.96	-25	-35.96	H
10.67871	36.36	Pk	37.8	-35.4	-95.2	-56.44	-25	-31.44	H
5.33975	39.46	Pk	34.3	-40.9	-95.2	-62.34	-25	-37.34	V
8.00787	37.67	Pk	35.8	-37.7	-95.2	-59.43	-25	-34.43	V
10.68066	36.6	Pk	37.8	-35.4	-95.2	-56.2	-25	-31.2	V

Pk - Peak detector

10.5.3. LTE BAND 48

LIMIT

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

QPSK LTE BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/7/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 48 QPSK 20 + 20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	BRF 3400-3800MHz T1792 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 3560MHz + 3579.8MHz										
7.141	37.71	Pk	35.7	-38.6	0.5	-95.2	-59.89	-40	-19.89	H
10.71043	35.56	Pk	37.8	-35	0.3	-95.2	-56.54	-40	-16.54	H
14.27935	37.08	Pk	38.8	-35.4	0.7	-95.2	-54.02	-40	-14.02	H
7.14188	36.97	Pk	35.7	-38.6	0.5	-95.2	-60.63	-40	-20.63	V
10.71001	35.94	Pk	37.8	-35	0.3	-95.2	-56.16	-40	-16.16	V
14.27978	37.66	Pk	38.9	-35.3	0.7	-95.2	-53.24	-40	-13.24	V
Mid Channel, 3615.1MHz + 3634.9MHz										
7.2494	37.07	Pk	35.6	-38.6	0.5	-95.2	-60.63	-40	-20.63	H
10.87422	35.59	Pk	37.8	-34.3	0.3	-95.2	-55.81	-40	-15.81	H
14.50002	37.76	Pk	39.3	-36.3	0.7	-95.2	-53.74	-40	-13.74	H
7.24931	37	Pk	35.6	-38.6	0.5	-95.2	-60.7	-40	-20.7	V
10.87685	34.37	Pk	37.8	-34.4	0.3	-95.2	-57.13	-40	-17.13	V
14.49984	37.81	Pk	39.3	-36.3	0.7	-95.2	-53.69	-40	-13.69	V
High Channel, 3670.2MHz + 3690MHz										
7.36238	37.71	Pk	35.6	-38.4	0.5	-95.2	-59.79	-40	-19.79	H
11.03867	35.48	Pk	37.9	-34.7	0.5	-95.2	-56.02	-40	-16.02	H
14.72008	37.4	Pk	39.6	-35.5	0.7	-95.2	-53	-40	-13	H
7.3622	37.39	Pk	35.6	-38.4	0.5	-95.2	-60.11	-40	-20.11	V
11.04069	34.96	Pk	37.9	-34.6	0.5	-95.2	-56.44	-40	-16.44	V
14.72031	37.02	Pk	39.6	-35.5	0.7	-95.2	-53.38	-40	-13.38	V

Pk - Peak detector

10.5.4. LTE BAND 66B

LIMIT

FCC: §27.53 (h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 66B (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/2/2021
Test Engineer:	44366 TXL
Configuration:	EUT Only
Mode	Band 66B QPSK 10 + 10
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1715MHz + 1724.9MHz									
3.61176	51.64	Pk	32.7	-41.6	-95.2	-52.46	-13	-39.46	H
5.41595	49.63	Pk	34.4	-40.8	-95.2	-51.97	-13	-38.97	H
7.38042	48.09	Pk	35.6	-38.4	-95.2	-49.91	-13	-36.91	H
3.58671	51.55	Pk	32.6	-41.6	-95.2	-52.65	-13	-39.65	V
5.34456	49.96	Pk	34.3	-40.8	-95.2	-51.74	-13	-38.74	V
7.42758	48.36	Pk	35.5	-38.3	-95.2	-49.64	-13	-36.64	V
Mid Channel, 1750.1MHz + 1760MHz									
3.37081	52.22	Pk	32.5	-42	-95.2	-52.48	-13	-39.48	H
5.34789	50.48	Pk	34.3	-40.9	-95.2	-51.32	-13	-38.32	H
7.45374	48.08	Pk	35.6	-38.4	-95.2	-49.92	-13	-36.92	H
3.36966	51.63	Pk	32.5	-42	-95.2	-53.07	-13	-40.07	V
5.37316	49.42	Pk	34.3	-40.9	-95.2	-52.38	-13	-39.38	V
7.45844	47.69	Pk	35.6	-38.4	-95.2	-50.31	-13	-37.31	V
High Channel, 1765.1MHz + 1775MHz									
3.39494	51.37	Pk	32.5	-42.1	-95.2	-53.43	-13	-40.43	H
5.29267	50.89	Pk	34.2	-41	-95.2	-51.11	-13	-38.11	H
7.33687	48.57	Pk	35.5	-38.5	-95.2	-49.63	-13	-36.63	H
3.37815	51.87	Pk	32.5	-42.1	-95.2	-52.93	-13	-39.93	V
5.28334	51.35	Pk	34.2	-40.9	-95.2	-50.55	-13	-37.55	V
7.299	48.28	Pk	35.5	-38.6	-95.2	-50.02	-13	-37.02	V

Pk - Peak detector

10.5.5. LTE BAND 66C

LIMIT

FCC: §27.53 (h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 66C (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/2/2021
Test Engineer:	44366 TXL
Configuration:	EUT Only
Mode	Band 66C QPSK 20 + 20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1720MHz + 1739.8MHz									
3.64495	52.64	Pk	32.9	-41.6	-95.2	-51.26	-13	-38.26	H
5.18444	50.64	Pk	34.2	-41.5	-95.2	-51.86	-13	-38.86	H
6.86101	48.31	Pk	35.6	-38.7	-95.2	-49.99	-13	-36.99	H
3.69474	51.13	Pk	33	-41.4	-95.2	-52.47	-13	-39.47	V
5.14763	50.54	Pk	34.2	-41.5	-95.2	-51.96	-13	-38.96	V
6.93201	48.4	Pk	35.7	-38.6	-95.2	-49.7	-13	-36.7	V
Mid Channel, 1745.1MHz + 1764.9MHz									
3.57907	51.73	Pk	32.7	-41.7	-95.2	-52.47	-13	-39.47	H
5.31371	50.65	Pk	34.3	-41	-95.2	-51.25	-13	-38.25	H
6.51337	48.33	Pk	35.5	-39	-95.2	-50.37	-13	-37.37	H
3.59868	51.7	Pk	32.7	-41.7	-95.2	-52.5	-13	-39.5	V
5.2822	50.75	Pk	34.2	-40.9	-95.2	-51.15	-13	-38.15	V
6.85533	48.55	Pk	35.5	-38.7	-95.2	-49.85	-13	-36.85	V
High Channel, 1750.2MHz + 1770MHz									
3.6393	52.07	Pk	32.9	-41.6	-95.2	-51.83	-13	-38.83	H
5.31631	50.58	Pk	34.3	-40.9	-95.2	-51.22	-13	-38.22	H
6.85507	48.51	Pk	35.5	-38.7	-95.2	-49.89	-13	-36.89	H
3.63867	52.4	Pk	32.9	-41.5	-95.2	-51.4	-13	-38.4	V
5.31598	50.5	Pk	34.3	-40.9	-95.2	-51.3	-13	-38.3	V
6.7904	48.34	Pk	35.5	-38.8	-95.2	-50.16	-13	-37.16	V

Pk - Peak detector

10.6. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT7

10.6.1. LTE BAND 48

LIMIT

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

QPSK LTE BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/6/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 48 QPSK 20 + 20
Chamber #:	Chamber Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	BRF 3400-3800MHz T1792 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 3560MHz + 3579.8MHz										
7.13885	37.23	Pk	35.6	-38.6	0.5	-95.2	-60.47	-40	-20.47	H
10.71026	35.5	Pk	37.8	-35	0.5	-95.2	-56.4	-40	-16.4	H
14.28116	36.72	Pk	38.9	-35.3	0.7	-95.2	-54.18	-40	-14.18	H
7.14271	37.51	Pk	35.6	-38.6	0.5	-95.2	-60.19	-40	-20.19	V
10.71055	36.33	Pk	37.8	-35	0.5	-95.2	-55.57	-40	-15.57	V
14.27928	36.89	Pk	38.8	-35.4	0.7	-95.2	-54.21	-40	-14.21	V
Mid Channel, 3615.1MHz + 3634.9MHz										
7.25035	37.64	Pk	35.6	-38.6	0.5	-95.2	-60.06	-40	-20.06	H
10.87474	34.19	Pk	37.8	-34.4	0.5	-95.2	-57.11	-40	-17.11	H
14.50098	37.92	Pk	39.3	-36.3	0.7	-95.2	-53.58	-40	-13.58	H
7.25107	37.18	Pk	35.6	-38.6	0.5	-95.2	-60.52	-40	-20.52	V
10.87536	35.16	Pk	37.8	-34.4	0.5	-95.2	-56.14	-40	-16.14	V
14.50064	38.83	Pk	39.3	-36.3	0.7	-95.2	-52.67	-40	-12.67	V
High Channel, 3670.2MHz + 3690MHz										
7.36019	37.62	Pk	35.6	-38.4	0.5	-95.2	-59.88	-40	-19.88	H
11.03845	34.48	Pk	37.9	-34.7	0.5	-95.2	-57.02	-40	-17.02	H
14.72065	37.04	Pk	39.6	-35.5	0.7	-95.2	-53.36	-40	-13.36	H
7.35994	37.44	Pk	35.6	-38.4	0.5	-95.2	-60.06	-40	-20.06	V
11.03871	34.61	Pk	37.9	-34.7	0.5	-95.2	-56.89	-40	-16.89	V
14.72102	36.8	Pk	39.6	-35.4	0.7	-95.2	-53.5	-40	-13.5	V

Pk - Peak detector

10.7. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT8

10.7.1. LTE BAND 48

LIMIT

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

QPSK LTE BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	5/28/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 48 QPSK 20 + 20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	BRF 3400-3800MHz T1792 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 3560MHz + 3579.8MHz										
7.14212	37.56	Pk	35.7	-38.6	0.5	-95.2	-60.04	-40	-20.04	H
10.71377	35.45	Pk	37.8	-35	0.3	-95.2	-56.65	-40	-16.65	H
14.28211	37.83	Pk	38.9	-35.3	0.7	-95.2	-53.07	-40	-13.07	H
7.14399	38.55	Pk	35.6	-38.5	0.5	-95.2	-59.05	-40	-19.05	V
10.71297	35.92	Pk	37.8	-35	0.3	-95.2	-56.18	-40	-16.18	V
14.28051	37.59	Pk	38.9	-35.3	0.7	-95.2	-53.31	-40	-13.31	V
Mid Channel, 3615.1MHz + 3634.9MHz										
7.25115	38.59	Pk	35.6	-38.6	0.5	-95.2	-59.11	-40	-19.11	H
10.87403	34.67	Pk	37.8	-34.3	0.3	-95.2	-56.73	-40	-16.73	H
14.49788	38.39	Pk	39.3	-36.2	0.7	-95.2	-53.01	-40	-13.01	H
7.2505	37.96	Pk	35.6	-38.6	0.5	-95.2	-59.74	-40	-19.74	V
10.8747	35.84	Pk	37.8	-34.4	0.3	-95.2	-55.66	-40	-15.66	V
14.49791	39.29	Pk	39.3	-36.2	0.7	-95.2	-52.11	-40	-12.11	V
High Channel, 3670.2MHz + 3690MHz										
7.36138	37.98	Pk	35.6	-38.4	0.5	-95.2	-59.52	-40	-19.52	H
11.04147	34.06	Pk	37.9	-34.6	0.5	-95.2	-57.34	-40	-17.34	H
14.72149	37.51	Pk	39.6	-35.4	0.7	-95.2	-52.79	-40	-12.79	H
7.36306	37.69	Pk	35.6	-38.4	0.5	-95.2	-59.81	-40	-19.81	V
11.04187	35.38	Pk	37.9	-34.6	0.5	-95.2	-56.02	-40	-16.02	V
14.72108	38.18	Pk	39.6	-35.4	0.7	-95.2	-52.12	-40	-12.12	V

Pk - Peak detector

10.8. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT9

10.8.1. LTE BAND 48

LIMIT

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

QPSK LTE BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	13571601
Date:	4/7/2021
Test Engineer:	12491 GM
Configuration:	EUT Only
Mode	Band 48 QPSK 20 + 20
Chamber #:	Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213831	Amp/Cbl (dB)	BRF 3400-3800MHz T1792 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 3560MHz + 3579.8MHz										
7.1412	37.52	Pk	35.7	-38.6	0.5	-95.2	-60.08	-40	-20.08	H
10.70951	35.57	Pk	37.8	-35	0.3	-95.2	-56.53	-40	-16.53	H
14.28134	36.51	Pk	38.9	-35.3	0.7	-95.2	-54.39	-40	-14.39	H
7.14045	37.45	Pk	35.7	-38.6	0.5	-95.2	-60.15	-40	-20.15	V
10.70947	36.26	Pk	37.8	-35	0.3	-95.2	-55.84	-40	-15.84	V
14.28266	36.67	Pk	38.9	-35.3	0.7	-95.2	-54.23	-40	-14.23	V
Mid Channel, 3615.1MHz + 3634.9MHz										
7.24919	37.55	Pk	35.6	-38.6	0.5	-95.2	-60.15	-40	-20.15	H
10.87531	34.65	Pk	37.8	-34.4	0.3	-95.2	-56.85	-40	-16.85	H
14.5011	37.27	Pk	39.3	-36.3	0.7	-95.2	-54.23	-40	-14.23	H
7.24786	37.15	Pk	35.5	-38.6	0.5	-95.2	-60.65	-40	-20.65	V
10.87357	34.86	Pk	37.8	-34.3	0.3	-95.2	-56.54	-40	-16.54	V
14.49998	37.8	Pk	39.3	-36.3	0.7	-95.2	-53.7	-40	-13.7	V
High Channel, 3670.2MHz + 3690MHz										
7.36029	37.85	Pk	35.6	-38.4	0.5	-95.2	-59.65	-40	-19.65	H
11.04159	34.29	Pk	37.9	-34.6	0.5	-95.2	-57.11	-40	-17.11	H
14.71972	37.09	Pk	39.6	-35.5	0.7	-95.2	-53.31	-40	-13.31	H
7.35958	37.49	Pk	35.6	-38.4	0.5	-95.2	-60.01	-40	-20.01	V
11.04152	35.38	Pk	37.9	-34.6	0.5	-95.2	-56.02	-40	-16.02	V
14.71923	36.91	Pk	39.6	-35.5	0.7	-95.2	-53.49	-40	-13.49	V

Pk - Peak detector

11. SETUP PHOTOS

Please refer to 13571601-EP1V1 for setup photos

END OF REPORT